DOCUMENT RESUME

ED 290 356 HE 020 924

AUTHOR Van de Water, Gordon; Augenblick, John
TITLE Working While Studying: Does It Matter? An Examination of the Washington State Work Study Program.
INSTITUTION AVA, Inc., Denver, CO.
SPONS AGENCY Washington State Higher Education Coordinating Board, Olympia.
PUB DATE May 87
NOTE 138p.
AVAILABLE FROM Higher Education Coordinating Board, 908 East 5th, EW-11, Olympia, WA 98504.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Academic Achievement; *Academic Persistence; College Credits; *College Students; *Grade Point Average; Higher Education; Questionnaires; State Programs; *Student Employment; Student Financial Aid; Undergraduate Students; *Work Study Programs
IDENTIFIERS College Work Study Program; *Washington; *Washington Work Study Program

ABSTRACT

The impact of working on academic performance and persistence of a sample of full-time undergraduates enrolled in Washington State's public and private institutions during fall 1983 through spring 1985 was studied. Data sources included: student records for the State Work Study, College Work Study, and nonworking financial aid recipients; and surveys of campus administrators and students. It was found that work had no impact on the academic performance and very little impact on the academic progress of full-time undergraduates. Neither the number of hours worked nor the rate of pay had a strong impact on a student's grade point average (GPA), number of credit hours attempted, or the ratio of credits earned to credits attempted. For persistence, the working student, on average, was estimated to take slightly longer to complete college than the nonworker. Additional findings include: the best college GPA prediction was high school GPA; older students performed better academically than the younger students; and State Work Study students generally had higher GPAs than College Work Study students or nonworkers. Included are a data element dictionary, the administrator and student surveys, and a condensed version of the study report. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

HE

AVA EDUCATION POLICY/PLANNING SERVICES
1370 Pennsylvania St., Suite 220
Denver, CO 80203

ED290356

WORKING WHILE STUDYING:

DOES IT MATTER?

An Examination of the

Washington State Work Study Program

Prepared by

AUGENBLICK, VAN DE WATER & ASSOCIATES

Denver, Colorado

May 1987

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Washington State H.E. Coordinating Board
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

HE 020 924

BEST COPY AVAILABLE

AVA EDUCATION POLICY/PLANNING SERVICES
1370 Pennsylvania St., Suite 220
Denver, CO 80203

LETTER OF TRANSMITTAL

May 15, 1987

Ms. Shirley A. Ort
Associate Director
Washington State Higher Education
Coordinating Board
908 East Fifth Avenue
Olympia, Washington 98504

Dear Ms. Ort:

It is a pleasure to transmit to you our report to the Washington State Higher Education Coordinating Board on the effect of working on academic performance and persistence among full-time undergraduate students in Washington's public and private colleges and universities. We believe you will find the report useful in your continuing efforts to serve the students of Washington State.

While this is our report, it would not have been possible without the cooperation of the many educators and students in Washington State who took time from their busy lives to provide us with the information needed to analyze the relationships between working and studying. We deeply appreciate their willingness to cooperate in this important study.

Sincerely,

Gordon Van de Water

Gordon Van de Water

John Augenblick

John Augenblick

ACKNOWLEDGEMENTS

The preparation of this report would not have been possible without the involvement of many people. We particularly appreciate the advice and guidance of Shirley Ort, Marilyn Sjolund, and Tom Jons at the Washington State Higher Education Coordinating Board. Their unflagging diligence during the extended data collection effort contributed significantly to the quality of the data that were provided to us. We are especially thankful to the many campus personnel whose dedication and commitment to students pushed them to cooperate in this study in every possible way - from preparing mailing labels for surveys to checking data records over a two year period. The quality and accuracy of this effort rests on their good work. And we are grateful to the students who participated in our mail survey for sharing their perspectives with us knowing that the benefits of their responses will accrue to students of the next generation rather than themselves.

In conducting the data analysis, we were greatly aided by the statistical expertise of Donald Searls, Professor of Applied Statistics at the University of Northern Colorado and Peter Intarapanich, a doctoral student in applied statistics. Their intimate familiarity with statistical procedures and interpretation saved us considerable agony. The thoughtful review of the draft report by Scott Miller, a leading researcher in student financial aid, greatly enhanced the clarity and organization of the final report. Finally, Mary Flanigan, AVA policy analyst, provided excellent assistance in the preparation and analysis of the campus administrator and student surveys and the organization of the data base.

This report reflects our best efforts to understand and report on the relationship between working and studying for full-time undergraduate students in Washington's public and private colleges and universities. We are solely responsible for any factual errors or inconsistencies contained in the report.

Gordon Van de Water
John Augenblick

May 1987

BEST COPY AVAILABLE

WORKING WHILE STUDYING: DOES IT MATTER?

Highlights

The fundamental conclusion of the report is that work has no impact on the academic performance and very little impact on the academic progress of full-time undergraduate students in Washington's colleges and universities. Neither the number of hours worked nor the rate of pay has a strong impact on a student's grade point average, number of credit hours attempted, or the ratio of credits earned to credits attempted. For persistence, the working student, on average, will take slightly longer to complete college than the non-worker. Our estimate is that the additional time will be about one-third of an academic term. These findings are consistent with other research studies on the relationship between working and studying.

Other highlights include:

- The best predictor of college grade point average is high school grade point average
- The longer a student is enrolled, the higher the grade point average, regardless of work experience while enrolled
- Older students perform better academically than younger students
- Independent students perform better academically than dependent students
- Working in the State Work Study program is positively correlated with grade point average
- State Work Study students generally have higher grade point averages than College Work Study students or non-workers
- Students with high financial need do better when working in the State Work Study program
- Students who work have a higher course completion rate than non-workers
- Campus administrators generally believe that part-time workers do better academically than non-workers and are more likely to persist
- Almost half of the students responding to the mail survey felt that working hurt their academic performance, a belief that is not substantiated by the data in this study

TABLE OF CONTENTS

Letter of Transmittal i

Acknowledgements iii

Highlights v

Introduction 1

Purpose of the Study 1

The Washington Work Study Program 2

Review of Research on the Impact of Working on Academic Performance and Persistence 3

The Study Design 7

Student Record Data 7

Drawing the Sample 8
Data Collection 9
Data Preparation 10

Survey of Campus Administrators 11
Survey of Students 12

Results of the Study 13

Overview of Data 15
Results of Regression Analyses 20
Analysis of Crosstabulations 30

Results of the Survey of Washington Campus Administrators 64

Academic Performance 64
Persistence 66

Student Survey Results 68

Summary and Conclusions 73

Appendices

A. Data Element Dictionary

B. Copy of Survey of Campus Administrators

C. Copy of Student Survey

WORKING WHILE STUDYING: DOES IT MATTER?

An Examination of the Washington State Work Study Program

Introduction

Educators, parents, students and policy makers are becoming increasingly concerned about how families will meet the climbing costs of college. College cost increases in recent years, averaging nearly ten percent per year and nearly double the rate of inflation, threaten to restrict educational opportunity. Grant and loan programs are not keeping pace with cost increases, thus putting added pressure on families and students to provide a greater share of overall costs. In this climate, working while studying is becoming more commonplace and enjoys widespread support from policy makers.

Purpose of the Study

The purpose of this study is to examine the impact of working on the academic performance and persistence of a sample of full-time undergraduate students enrolled in Washington's public and private colleges and universities during the period from Fall 1983 through Spring 1985. The study focuses on the following questions:

(1) Do students who are employed part-time perform as well academically as those who are not employed?

(2) Is there a relationship between number of hours worked and academic performance?

(3) What impact does working part-time have on student persistence?

(4) Does location of work (on-campus versus off-campus) make a difference in academic performance or persistence?

(5) Does working in a career-related field make a difference in academic performance or persistence?

The Washington Work Study Program

The Washington Work Study Program is the largest state sponsored work study program in the nation and the second oldest (behind Colorado).

The Washington Work Study Program was begun in 1974

> . . .to provide financial assistance to needy students attending eligible post-secondary institutions in the state of Washington by stimulating and promoting their employment, thereby enabling them to pursue courses of study at such institutions. An additional purpose of this program shall be to provide such needy students, wherever possible, with employment related to their academic interests.[1]

Students are eligible to participate in the program if they are Washington residents who demonstrate financial need, are enrolled at least half-time in an eligible institution, are deemed capable of maintaining good academic standing, and are not pursuing a degree in theology.

Washington institutions of postsecondary education are eligible to participate if they are accredited by the Northwest Association of Secondary and Higher Schools or are a public vocational technical institute in the state of Washington.

Subject to certain criteria, the following employers are eligible to participate:

- o any eligible public institution of postsecondary education
- o any other nonprofit organization which is nonsectarian
- o any profit-making nonsectarian employer

Positions offered under this program must be of educational benefit or career interest to the student, must not displace regular workers, and must be

---

[1]Chapter 28B.12, section 28B.12.020, laws of Washington.

non-sectarian and non-political. Students employed under this program are paid at a rate equal to the entry level salary of comparable positions.

In 1984-85, the program contracted with over 1600 employing organizations in the state, served over 5400 students, and received $6.2 million dollars of state support.

Review of Research on the Impact of Working on Academic Performance and Persistence

Literature on the impact of work on student performance and retention is relatively scarce. The available literature tends to support the conclusion that part-time employment does not have an adverse impact on a student's grade point average, even if the student is on academic probation.[2] Too much work, however, does seem to have an adverse impact on student performance.[3] As Martin concludes,

> On-campus employment during a student's freshman year in particular seems to enhance the student's chances of completing school. Several additional studies show that student employment does not have

---

[2]See: Jerry Augsburger, "An Analysis of Academic Performance of Working and Non-Working Students on Probation at Northern Illinois University", The Journal of Student Financial Aid, Vol. 4, No. 2, June 1974; John D. Barnes and Roland Keene, "A Comparison of the Initial Academic Achievement of Freshman Award Winners Who Work and Those Who Do Not Work," The Journal of Student Financial Aid, Vol. 4, No. 3, November 1974, 25-29; Judith F. Hammes and Emil J. Haller, "Making Ends Meet: Some of the Consequences of Part-Time Work for College Students", Journal of College Student Personnel, November 1983, pp. 529-534; J.B. Henry, "Part-Time Employment and Academic Performance," Journal of College Student Personnel, 1967, 8(4), 257-260; Albert B. Hood and Cheryl K. Maplethorpe, "Bestow, Lend, or Employ: What Difference Does it Make?" New Directions for Institutional Research, 1980, Vol. 7, No. 1, 61-73;

[3]See: Herta Teitelbaum, "Factors Affecting the Underachievement of Academically Able College Students," unpublished paper, October 1983 and Alexander Astin, Preventing Students from Dropping Out, San Francisco: Jossey-Bass, 1975.

> a negative impact on a student's grade point average, provided that such work does not exceed twenty hours per week.[4]

Research on student persistence (also studied from the point of view of attrition) frequently focuses on such factors as motivation, personal relationships, ability and a wide variety of demographic and financial variables.[5] As Stampen and Cabrera conclude

> . . . an extensive literature on attrition exists which provides a framework for exploring the effects of student aid, but also reveals that at present no firm basis exists for judging the overall effects of student aid.[6]

Examining student records from the University of Wisconsin's longitudinal data base, Stampen and Cabrera found

- during each academic year aided students, regardless of recipient type, displayed similar attrition rates compared to non-aided students
- the longer students remain in college, the less likely they are to drop out
- during the first academic year, males were significantly less likely to drop out than females (these differences disappeared after the first year)
- Caucasian and Asian students were substantially more likely to persist during the first and third years of college than black or Hispanic students

---

[4]A. Dallas Martin, Jr., "Financial Aid", Chapter 11 in Increasing Student Retention: Effective Programs and Practices for Reducing the Dropout Rate, Lee Noel, Randi Levitz, Diana Saluri and Associates, San Francisco: Jossey-Bass, 1985, p. 206.

[5]See: Vincent Tinto, "Limits of Theory and Practice in Student Attrition", Journal of Higher Education, 1982, 53, pp. 687-700 and Timothy J. Pantages and Carol F. Creedon, "Studies of College Attrition: 1950-1975", Review of Educational Research, 1978, 48, pp. 57-72.

[6]Jacob O. Stampen and Alberto F. Cabrera, "Exploring the Effects of Student Aid on Attrition", The Journal of Student Financial Aid, Vol. 16, No. 2, Spring 1986, p. 28.

- younger students are more likely to persist during the freshman year
- students with low high school achievement records are less likely to persist than students with high high school achievement records
- overall, they conclude that student financial aid seems to eliminate financial reasons for dropping out of college although student aid is only one of several factors affecting attrition.[7]

Other studies focusing on retention or persistence generally conclude that some work increases the chances of a student persisting through a degree.[8] One study states that "available research supports that the retention and success of students are linked to 'meaningful involvements' while in school. Work experiences rank as one of the most common and productive involvements for all college students."[9]

Research on the effects of differing approaches to financial aid packaging tends to be conflicting. Odutola concludes that grants are the most important variable for determining student persistence.[10] On the other hand, Astin found that major loan support and college work study were significantly

---

[7]Stampen and Cabrera, Ibid.

[8]See: Richard A. Voorhees, "Financial Aid and Persistence: Do Federal Campus-Based Aid Programs Make a Difference?", The Journal of Student Financial Aid, Vol 15, No. 1, Winter 1985, pp. 21-30; Dawn G. Terkla, "Does Financial Aid Enhance Undergraduate Persistence?, The Journal of Student Financial Aid, Vol. 15, No. 3, Fall 1985, pp. 11-18; Tullisse A. Murdock, "The Effect of Financial Aid on Student Persistence", paper given at the Association for the Study of Higher Education Annual Meeting, San Diego, February 1987.

[9]John R. Bazin and George Brooks, "The Work Experience Program - A Collaborative Effort Between Financial Aids and the Career Planning and Placement Center", The Journal of Student Financial Aid, Vol. 4, No. 3, November 1974, 25-29.

[10]Adeniji A. Odutola, "A Longitudinal Study of the Effects of Academic, Demographic, and Financial Aid Factors on Retention for the Freshman Class of 1974 at the Florida State University," August 1983.

Astin found that major loan support and college work study were significantly related to student persistence.[11]

Our review of the literature uncovered only two studies within Washington State that focused on part-time work and academic performance or persistence. A master's thesis by Tanzer examined the relationship between work-study employment and the academic performance and persistence of freshmen at one Washington community college.[12] Among Tanzer's findings

- o all work-study sub-groups by family status had a higher grade point average (GPA) than the non-employed groups
- o work-study employment seems to have enhanced, not hindered, the academic performance of first-term financial aid recipients
- o older first-term students benefited more from work-study employment than did the traditional students
- o working first-term students of both high and low ability were as academically successful or more successful than their non-working counterparts

A master's thesis by Sahlhoff focused on the relationship between part-time work and retention of first year students.[13] Studying first year students at Western Washington University in 1980, Sahlhoff found the relationship between employment and retention was positive for all variable groups, including students with lower high school GPAs.

---

[11] Alexander Astin, Preventing Students From Dropping Out, San Francisco: Jossey-Bass, 1975.

[12] Stephen Tanzer, A Comparative Study of the Relationship Between Work Study Employment and the Academic Performance and Persistence of First Term Community College Students, master's thesis, Western Washington University, July 1985.

[13] Kathleen A. Sahlhoff, A Comparative Study of the Relationship Between Part-Time On-Campus Employment and the Retention of Entering First Year Students, master's thesis, Western Washington University, 1982.

The Study Design

The study design includes three parts: a sample of institutional student records for students on State Work Study, College Work Study, and non-working financial aid recipients; a survey of campus administrators; and a survey of the students selected into the sample. The student survey attempted to fill-in data elements that previous literature had shown to be important.

Student Record Data

Obtaining student records involved drawing a stratified random sample of financial aid recipients from a sample of colleges and universities in Washington state. Given the Higher Education Coordinating Board's emphasis on the Washington Work Study program, we chose to sample institutions based on their participation level in that program. Sixteen institutions with high participation rates were examined and twelve were chosen to participate in the study based on the following criteria: willingness to participate, ability to supply data in a timely manner, geographic location, institutional type (four year/two year, public/private). The twelve institutions included in the study are:

College/University

University of Washington
Washington State University
Eastern Washington University
Western Washington University
Lower Columbia Community College
North Seattle Community College
Spokane Community College
Spokane Falls Community College
Pacific Lutheran University
Seattle University
University of Puget Sound
Whitworth College

Drawing the Sample. The population to be sampled was all Fall 1983 full-time undergraduate financial aid recipients at the 12 participating institutions. To accomplish the anticipated analysis, the sample needed to be fairly large and stratified based on participation in one of three basic analysis groups: (1) State Work Study; (2) other work study, and (3) non-workers.

To obtain sufficient cases for analysis, we included all participants in the State Work Study Program at each of the twelve institutions participating in the study. We then set sampling rules that would yield equivalent size samples for the two comparison groups. Rules for drawing the sample at each institution were as follows:

(1) For State Work Study participants - 100 percent of students participating in the State Work Study Program;

(2) For College Work Study and Institutional Work Study - 25 percent of the participants;

(3) For students receiving financial aid but not participating in any work study program - a sampling ratio that would yield a group comparable to the number of students on State Work Study.

Based on information supplied by the Higher Education Coordinating Board, this sample was projected to yield 1,278 students receiving State Work Study awards, 1,348 students receiving federal College Work Study or Institutional Work Study, and 1,300 students receiving financial aid but not participating in any work study program.

The original data set, before editing, contained the following number of cases for each group:

a) Students receiving a State Work Study award:	1,001
b) Students receiving a College Work Study or Institutional Work Study award:	1,342
c) Students receiving financial aid but not working:	1,265
TOTAL	3,608

Data Collection. For each of the cases in the sample, each institution was asked to provide the following data from their records for the semester or quarter ending in the Fall of 1983 and each subsequent semester or quarter through the Spring of 1985:

- institutional identifier
- student identifier
- age
- sex
- race
- dependent/independent status
- marital status
- number of dependents
- income (both student and parents if dependent)
- college class level
- academic information
    - high school grade point average
    - high school rank in class
    - college grade point average (cumulative and by term)
    - number of college credit hours attempted and completed (cumulative and by term)
    - number of college semesters in attendance (cumulative and by term)
- work information (if applicable)
    - work program (SWS, CWS, inst.) - by term
    - average hours worked per week - by term
    - wages/hour - by term
    - work location (on-campus/off-campus) - by term
- financial aid package (annual)
    - amount of need
    - grant amount
    - loan amount
    - work amount (by program)

Data Preparation. The core data set for analysis was student record information compiled by each institution participating in the study (see Appendix A for a copy of the Data Element Dictionary). These data were first edited to ensure that variables were coded appropriately, values were within acceptable ranges, and relationships among key variables were appropriate. For example, the variables for average hours worked per week in the three work study programs had a few numbers greater than 40. We assumed these to be either keypunch errors or misreported data and eliminated them from further analysis by recoding these values to "unknown". Another example involved data from one institution which repeatedly failed edit checks. For example, cases which showed a work study award being made were checked to see if average hours worked per week information was included. In the case of one institution, one-third of the cases had no work hours reported. Similarly, at this same institution, the sum of all financial aid components typically exceeded the need reported for the student. Because of these conditions, we elected to eliminate all data for this institution from further analysis.

The edit checks revealed some problems with the data, including keypunch errors, the inclusion of some students reported as being enrolled in graduate or professional schools in the Fall of 1983, and cases with no information on financial aid or work study. Based on these findings, the following rules were used to produce a "clean" analysis tape:

(1) keypunch coding errors for single variables were recoded to the "unknown" category but the case was retained in the file;

(2) students reported as enrolled in graduate and professional programs in the Fall 1983 were eliminated (N = 285);

(3) cases with no financial aid information were eliminated (N=4);

(4) data from one private four year institution were eliminated due to failure to pass edit checks (N = 91);

(5) students who participated in more than one work study program in a given academic term were eliminated (N = 44).

This effort resulted in 424 cases (12%) being eliminated from the file. The analysis tape subsequently contained 3,184 cases suitable for analysis.

Using the original sampling rules based on the award of work study, the file now contained the following number of cases by award grouping:

a) Students receiving a State Work Study award for academic year 1983-84:	952
b) Students receiving a College Work Study or Institutional Work Study award for academic year 1983-84:	1,226
c) Students receiving financial aid but not working for academic year 1983-84:	1,006
TOTAL	3,184

The 3,184 analysis cases contain missing data for some variables. These cases are retained in the file and individual cases for which data are missing for variables under review are not included in any analysis requiring that variable.

Survey of Campus Administrators

A survey of campus administrators was sent to chief student affairs officers and financial aid directors at each of Washington's public and private institutions. The purpose was to tap their experience and elicit their judgments about the key variables to be examined in the study. Questions covered two topics:

(1) the relationship between work and academic performance

a) does working effect academic performance?
b) does the type of work matter?
c) does the number of hours worked matter?
d) does working on or off-campus matter?

(2) the relationship between work and retention

a) does work experience have a positive or negative impact on staying in college?
b) do students who work take longer to complete a degree program?
c) do students who work in career related jobs have a higher probability of completing a degree program?

A copy of the survey instrument is reproduced in Appendix B. Sixty-three of the 88 administrators surveyed responded for a response rate of 72 percent.

Survey of Students

In order to thoroughly examine the impact of work on academic performance and retention it was necessary to have additional information about "outside" employment as well as additional student characteristics. Concerning outside employment, Astin found that twice as many students were employed outside of sponsored programs as were employed through sponsored programs.[14]

Institutional records do not contain information on a student's work history outside of the federal, state, or campus sponsored work experiences. Since it appeared important to know how much the student works in toto, students in the sample were surveyed directly to ascertain the amount and type of outside work engaged in and to respond to a series of opinion questions related to the impact of working on academic performance and retention. A copy of the survey instrument for students may be found in Appendix C.

---

[14]Alexander Astin, Preventing Students From Dropping Out, San Francisco: Jossey-Bass, 1975, p. 73.

Additionally, the literature reveals that other student characteristics are important in a student's decision to remain in college. Such factors as educational aspirations, concern about finances, and place of residence have an important bearing on these decisions. Questions designed to capture this information were included in the student survey.

In order to maximize the response rate for this survey the mailing came directly from the institution and was on institutional letterhead. This was important because the institution had the current mailing address of the student and we felt the student would be much more likely to respond to a request from his or her college than one from a firm conducting a state sponsored study. No follow-up mailing was conducted.

Surveys were sent to each of 3,608 students in the sample. 1,044 usable responses were returned for a response rate of 29 percent. In addition to the low response rate, many of the questions were not answered, thus further reducing the utility of the data. Because of these factors, data from the student surveys were not included in the regression analyses. A separate analysis of the student survey responses was conducted after doing the regressions.

Results of the Study

The issues of interest to this study relate to working. However, we discovered that many students who receive an annual work study award do not actually work in every academic term during the year of the award, therefore, we re-sorted the cases into three groups based on whether or not each student actually worked during each term. Students are classified as work study students only for those academic terms in which they actually worked. Using this procedure, the observations were re-sorted according to the following rules:

Group One: State Work Study Only. Students who worked only under the State Work Study program are assigned to Group One only for those academic terms in which they actually worked.

Group Two: College Work Study or Institutional Work Study. Students who worked in either College Work Study or were employed by the institution (through the financial aid office) are assigned to Group Two only for those academic terms in which they actually worked.

Group Three: Non-workers. Students who did not work during a given academic term, even though they may have received a work study award, are assigned to Group Three for that term. Similarly, students who received financial aid (either grant or loan) but did not work under any work study program are assigned to Group Three for every term.

In this way a student's assignment to a group varies with each academic term depending on whether or not the student worked during that term. All other characteristics of the student, e.g, grade point average, credit hours attempted, credit hours earned, and demographic characteristics, also moved with the student, changing by term where appropriate. For each semester student, therefore, there are a maximum of four separate data records representing the four semesters covered in the study. For each quarter student there are a maximum of six separate data records representing the six quarters covered in the study. Numerous students will have less than the maximum possible number of data observations because they graduated, transferred, or dropped out during the period under study. In addition, because we focused on full-time students, students who entered the sample as full-time students but later dropped to part-time status were eliminated from the analysis for any academic term in which they were enrolled part-time.[15]

---

[15]This decision was made after the regression results for all students (including part-time enrollees) showed that part-time students made no statistically significant differences in the regression results.

Because students who received a work study award frequently did not work in each of the academic terms during the year of the award, the distribution of cases by group changed significantly. Using the approach described above, the 3,184 cases on the analysis tape represented 11,671 valid data observations that were distributed into the three groups as follows:

	Number of Observations	Percent
Group One (worked in State Work Study) -	2,154	18.5%
Group Two (worked in CWS or IWS) -	2,892	24.8
Group Three (non-workers) -	6,625	56.7
Total Observations	11,671	100.0%

Results of the study are presented in three parts: (1) an overview of the data; (2) an analysis of regression results; and (3) an analysis of relationships among key variables identified in the regression analysis.

Overview of the Data

As a first step, we examined how closely the study sample resembles the total population of financial aid recipients in the state. Table One shows the basic demographic characteristics of financial aid recipients statewide and of the sample of financial aid recipients from the eleven institutions participating in the study. In general, students in the sample population are younger, report slightly higher parental income, are proportionately distributed by sex, and are more likely to be dependent students than the statewide population of financial aid recipients.

TABLE ONE

COMPARISON OF AGE, PARENTAL INCOME, SEX, AND DEPENDENCY STATUS
OF ALL FINANCIAL AID RECIPIENTS (STATEWIDE) TO STUDENTS IN THE STUDY SAMPLE
1983-84 ACADEMIC YEAR

	All Aided Students[16]	Students in Study
Average Age	25.0	22.6
Average Parental Income	$20,441	$21,141
Sex		
Male	48%	47%
Female	52	53
Dependency Status		
Dependent	44%	55%
Independent	56	45

As a second step, we examined the demographic and financial aid characteristics of the three groups to be analyzed: (1) those working under the State Work Study Program; (2) those working under either the federal College Work Study Program or institutional work study programs; and (3) those receiving financial aid but not working. Table Two compares the three groups on basic demographic and financial aid characteristics. Students in State Work Study tend to be slightly older, are more likely to be independent of parental support, earn more per hour while working, have higher need, receive more in grant aid, and receive less in loan aid. Percentages in the table are based on data observations, rather than individual cases. The major impact of this method is that some students in one group will show work study awards in

---

[16]Source: "Socio-Economic Profile of Need-Based Financial Aid Recipients (All Institutions), By Program, 1983-84", Unit Record Report, Council for Postsecondary Education, Financial Assistance Section, September 1985.

programs outside that group because the data observations cover each academic term over a two year period. For example, a Group One student (State Work Study) may show a College Work Study award. This occurs when a student switches from one program to the other between the two academic years under review.

TABLE TWO

COMPARISON OF FINANCIAL AID RECIPIENTS IN THE STUDY, BY GROUP, 1983-84

	Group One (SWS)	Group Two (CWS/IWS)	Group Three (Non-workers)
Average Age	23.0	21.9	22.7
Sex			
Male	43.1%	43.2%	49.7%
Female	56.9	56.8	50.3
Race			
White	78.5%	83.3%	75.8%
Other	21.5	16.7	24.2
High School GPA[17]	3.28	3.27	3.28
Dependency Status			
Dependent	48.4%	62.1%	54.0%
Independent	51.6	37.9	46.0
Marital Status			
Married	7.8%	6.4%	8.0%
Single	92.2	93.6	92.0
Parental Income	$20,794	$21,456	$21,087
Year in School			
Freshman	16.3%	21.4%	16.5%
Sophomore	30.0	33.3	24.9
Junior	25.4	20.8	24.1
Senior	28.6	24.5	32.3

[17]Covers students enrolled in four year colleges only; two year college students' records do not contain information on high school grade point average.

TABLE TWO Continued

COMPARISON OF FINANCIAL AID RECIPIENTS IN THE STUDY, BY GROUP, 1983-84

	Group One (SWS)	Group Two (CWS/IWS)	Group Three (Non-workers)
Average Hours Worked Per Week	11.7	11.3	-0-
Wages ($/hr)*	$4.77	$3.89	$ -0-
Need	$5,767	$5,497	$5,175
Grant*	$1,841	$1,805	$1,590
Loan*	$ 950	$ 813	$1,194
College Work Study Award*	$ 715	$1,079	$ 741
% of Observations with non-zero amount	17.7	73.2	12.7
Inst. Work Study Award*	$ 308	$ 660	$ 703
% of Observations with non-zero amount	7.0	24.1	7.3
State Work Study Award*	$1,426	$1,059	$ 901
% of Observations with non-zero amount	90.2	19.6	14.8

* Award is the average for those receiving any non-zero amount in work study.

For State Work Study and College Work Study/Institutional Work Study, the distribution of observations by average hours worked per week and wages is shown in Table Three. Two-thirds of all work study students work between 10 and 20 hours per week. Students in College/Institutional Work Study are more apt to work less than 10 hours than students in State Work Study (34.3 percent versus 27.2 percent). State Work Study students have higher hourly wages than College/Institutional Work Study students. While most students in both

programs earn between $3.50 and $5.00 per hour, one-third of State Work Study students earn more than $5.00 per hour while 27.5 percent of College/Institutional Work Study students earn less than $3.50 per hour.

TABLE THREE

AVERAGE HOURS WORKED PER WEEK AND HOURLY WAGES, BY PROGRAM

	Average Hours Worked Per Week			
	1-9	10-14	15-20	21 40
State Work Study	27.2%	50.0%	20.8%	1.9%
College/Institutional Work Study	34.3	41.7	21.8	2.2
Total	31.3	45.2	21.4	2.1

	Wages Per Hour		
	Less Than $3.50	$3.50 - 5.00	More Than $5.00
State Work Study	8.4%	58.0%	33.6%
College/Institutional Work Study	27.5	64.1	8.5
Total	19.4	61.5	19.1

Results of the Regression Analyses

The data set for this study is "rich" in providing raw material for analysis. There are many hypotheses that could be tested using these data in regard to a variety of questions about the factors that influence academic performance and persistence. Our focus, however, was on the impact of work on academic performance and persistence. Our approach to these questions centered on two lines of inquiry. First, we wished to examine the impact of work on academic performance. In order to do this, we used the student's grade point a erage (GPA) as the indicator of academic performance. Second, we wished to examine the impact of work on student persistence. We had two choices: (1) to examine the differences between those students who persisted and those who did not; and (2) to examine the differences in rate of progress toward a degree. Initially we looked at the differences between those who persisted and those who did not. Unfortunately, the size of the population of non-persisters was too small (N = 258) to make further analysis worthwhile. Therefore we concentrated on the second approach through an analysis of credit hours attempted and the ratio of credit hours earned to credit hours attempted. Table Four provides the mean and standard deviation, by group, for each of the variables that indicate academic status (later to be used as dependent variables in the regression analysis). State Work Study students (Group One) had a slightly higher mean GPA than the other two groups, attempted the same number of credit hours per term, and completed the same ratio of credit hours. Overall there is little difference among the three groups.

TABLE FOUR

SUMMARY DESCRIPTION OF DEPENDENT VARIABLES USED IN REGRESSION ANALYSES

Variable	Group One (SWS)		Group Two (CWS/IWS)		Group Three (Non-workers)	
	Mean	s.d.*	Mean	s.d.*	Mean	s.d.*
GPA	2.94	.81	2.84	.74	2.80	.90
Credit Hours Attempted	15.10	2.23	15.05	2.48	15.16	2.43
Ratio of Credit Hours Earned to Credit Hours Attempted	.92	.25	.93	.19	.90	.23

* s.d. = standard deviation

Our next step was to examine the simple correlations between the academic variables and work variables. Work may be examined along a variety of dimensions: average hours worked per week, average hourly rate of pay, type of work, or location of work. We did not have information on the type of work students engaged in, for example, laboratory work, cafeteria work, or tutoring, so this dimension could not be included in the analysis. Originally we intended to use participation in the State Work Study program as a proxy for working off-campus. An edit check of work location on the data tape showed, however, that only eight percent of State Work Study students records provide work location information and, of these, one-half indicated that they worked on campus. We concluded that this information was unreliable and therefore eliminated this dimension from our analysis. The analysis subsequently focused on average hours worked per week and average hourly wage. Table Five shows the correlation between the dependent variables and the two

work variables. All of the correlations are very low, indicating very weak relationships between the work variables and academic variables.

TABLE FIVE

CORRELATION BETWEEN AVERAGE HOURS WORKED PER WEEK, WAGES, AND THE DEPENDENT VARIABLES

	Average Hours Worked/Week		Wages	
Variable	SWS	CWS/IWS	SWS	CWS/IWS
GPA	.06	.08	.05	.05
Quarter Hours Attempted	-.02	.01	-.01	-.02
Ratio of Credit Hours Earned to Credit Hours Attempted	-.05	-.03	.06	-.03

Next we examined the simple correlations between the academic variables and non-work-related variables. The variables were selected based on our review of the literature and their availability in the data set. These correlations are shown in Table Six. An examination of the GPA column shows that high school GPA is the most highly correlated variable with college GPA, indicating that, among these variables, it is the most important determinant of academic performance in college yet it only explains about eleven percent of college GPA. Several other variables, while less significant than high school GPA, contribute positively to college GPA: older students tend to do better than younger students, whites do better than other students, independent students do better than dependent students, and students in general increase their GPAs as they move through college. Sex, marital

status, and level of financial need are insignificantly related to college grade point average.

None of the non-work-related variables show significant correlations with grade point average, credit hours attempted or the ratio of credit hours earned to credit hours attempted. This indicates that other variables, not included in this study, are influencing these two variables. It is possible that a low correlation is masking a curvilinear relationship between the variables. We examined scattergrams showing the graphic relationship between each independent variable and the three dependent variables. A visual examination of the scattergrams showed that there was very little relationship, either linear or curvilinear.

TABLE SIX

CORRELATION OF DEPENDENT VARIABLES WITH NON-WORK-RELATED VARIABLES

	GPA		Quarter Hours Attempted		Ratio	
Non-work Variable	SWS	CWS/IWS	SWS	CWS/IWS	SWS	CWS/IWS
High School GPA	.33	.35	.07	.06	.10	.15
Age	.08	.05	-.03	.01	.01	-.04
Sex	-.02	-.05	.01	.01	-.03	-.04
Race	.14	.11	-.01	.01	.08	.14
Year in School	.12	.15	.00	-.01	.07	.06
Dependency	.09	.08	.00	.01	-.01	-.03
Marital Status	.03	.10	.01	.02	.02	.07
Need	.02	.03	-.04	-.04	-.01	.00

We used multiple regression analysis to incorporate as many variables as possible into the analysis model in order to observe the impact of work when controlling for all other variables. Three separate regression analyses were made using each of the three different academic variables as the dependent variables in the regression equations: (1) grade point average; (2) credit hours attempted; and (3) the ratio of credit hours earned to credit hours attempted.

The first regression model sought to predict a student's grade point average using all the variables for which we had data. This model originally included data on a student's high school grade point average. With this variable in the model we were able to explain only fourteen percent of the variation in GPA and high school GPA was the most important single variable. In this model, neither of the work variables turned out to be significant at the .01 level. However, since high school GPA information was not available for many and the missing cases were all students in two year colleges, we decided to re-run the regression without high school GPA in order to include the two year college students. The results of this regression are shown in Table Seven. The R-square value of .05 indicates that the variables in the model are explaining only five percent of the variation in college GPA. The intercept values, ranging from 2.37 to 2.52, indicate that variables other than those in the model are primarily responsible for explaining college GPA. Of those variables that are significant in explaining college GPA, the work variables are less important than other variables, as indicated by the standardized estimate. The parameter estimates, given in parentheses in the table, estimate the contribution of that variable to the explanation of GPA. For example, the total hours worked variable has a parameter estimate of 0.010

which means that for every ten hours per week a student works, his GPA is predicted to increase one-tenth of a point.

TABLE SEVEN

RESULTS OF REGRESSION MODEL WHEN PREDICTING GPA
(WITH HIGH SCHOOL GPA OMITTED)

	SWS	CWS/IWS	Non-workers	Overall
R-Square	.05	.06	.03	.03
Intercept	2.37	2.37	2.50	2.52
Variables[18]	Year in school (0.108)	Year in school (0.107)	Race (0.231)	Year in School (0.092)
	Race (0.267)	Race (0.216)	Year in School (0.079)	Race (0.223)
	Dependency (0.119)	Average Hours Worked/Week (0.012)		Average Hours Worked/Week (0.008)
	Average Hours Worked/Week (0.010)	Marital Status (0.259)		Need (-0.00001)
		Sex (-0.109)		Sex (-0.047)
		Wages (0.0005)		

Having examined the impact of work on academic performance, we next focused on the impact of work on student persistence. Persistence typically is defined as remaining enrolled through the completion of a degree program. Therefore, initially we sorted the study population into two categories: those who remained in college or completed a degree program during the terms under review (persisters) and those who did not remain enrolled through a degree

[18]Selected if statistical significance >.01, ordered by size of standardized estimate (largest to smallest), with parameter estimate given in parentheses.

(dropouts). Through this procedure we discovered a number of students who were missing in a particular term but reappeared in a subsequent academic term, leading us to create a third category (stopouts). Table Eight below shows the distribution of the three categories above by the three groups under study (SWS, CWS/IWS, and non-workers). The distribution shows a low level of dropouts and stopouts. This may be attributable to our earlier decision to capture as much information as possible about students' work experiences and therefore adopting the observational approach to the analysis. In that sense, the distribution of dropouts and stopouts is understated. The alternative was to group cases, rather than observations, by their persistence. The problem with that approach is that we could not characterize the work experience of each case. For example, an individual who dropped out in the fifth term was likely to have had a variety of work experiences in the prior four terms. We felt it was more important to link each term's work experience with that term's persistence, requiring us to base our analysis on observations.

TABLE EIGHT

DISTRIBUTION OF OBSERVATIONS BY PERSISTENCE CATEGORY*

	Group One (SWS)	Group Two (CWS/IWS)	Group Three (Non-Workers)
Persisters	91.5%	93.6%	91.0%
Dropouts	2.1	1.3	2.7
Stopouts	6.4	5.1	6.3

* This distribution is based on observations, not individual students; therefore an individual who successfully completes three semesters and then drops out, shows up three times as a persister and once as a dropout.

Although the percentage of dropouts was very low, the percentage for working students was lower than the percentage for non-workers. Because the number of dropouts was so low, we concluded that it was inappropriate to compare the characteristics of dropouts to persisters. Instead, we chose to examine the rate of progress for persisters. To do this, we examined the number of credit hours attempted and the ratio of credit hours earned to credit hours attempted.

The second regression sought to predict the number of credit hours attempted. In this model, the high school GPA variable is excluded and students who dropped to part-time status are excluded. This regression shows that there is no relationship between the variables included in the model and quarter hours attempted (R-square = .01). The only variables with statistically significant results for this regression were need and marital status (see Table Nine). Need showed a parameter estimate of -0.00006, indicating that a student with need of $5500 would be predicted to have a grade point average .33 lower than the non-need student. Marital status showed a parameter estimate of .288, indicating a married student's GPA would be predicted to be .288 higher than a single student. We re-ran this regression with part-time students included and only marginally increased the R-square value. In this model, college GPA showed a significant parameter estimate, indicating that the better the prior academic performance, the more credit hours a student is likely to attempt. Like the prior model, neither of the work variables turned out to be statistically significant. The correlation matrix, however, shows a weak positive relationship between financial need and work, indicating that the more need a student has, the more hours he is likely to work.

TABLE NINE

RESULTS OF REGRESSION MODEL WHEN PREDICTING QUARTER HOURS ATTEMPTED
(WITH HIGH SCHOOL GPA OMITTED)

	SWS	CWS/IWS	Non-workers	Overall
R-Square	.01	.01	.01	.01
Intercept	15.89	15.20	15.28	15.31
Variables[19]	None	Need (-0.00007)	Need (-0.00006)	Need (-0.00006)
				Marital Status (.288)

The third regression sought to predict the ratio of credit hours earned to credit hours attempted. Table Ten shows the results of this regression. The R-square values are modest (.13 to .21), indicating low explanatory value for this model. Of the variables contributing to the explanation, college GPA is the most significant, indicating that students with higher GPAs tend to complete a higher proportion of credit hours attempted. For the State Work Study students (Group One), total hours worked shows a parameter estimate of -0.345, indicating that working tends to depress the ratio of credit hours earned to credit hours attempted. For example, every ten hours of work depresses the ratio by 3.45 percentage points. Over the course of a four year college career this would translate into a loss of 4.8 credit hours.

[19]Selected if statistical significance >.01, ordered by size of standardized estimate (largest to smallest), with parameter estimate given in parentheses.

TABLE TEN

RESULTS OF REGRESSION MODEL WHEN PREDICTING RATIO
(WITH HIGH SCHOOL GPA OMITTED)

	SWS	CWS/IWS	Non-workers	Overall
R-Square	.13	.18	.25	.21
Intercept	62.9%	71.3%	56.1%	59.2%
Variables[20]	GPA (10.083)	GPA (9.639)	GPA (12.049)	GPA (11.210)
	Tot Hrs Work (-0.345)	Race (3.890)	Year in School (1.862)	Wages (0.007)
		Marital Status (3.825)	Race (4.024)	Race (3.864)
			Age (-0.222)	Year in School (1.327)
				Tot Hrs Work (-0.161)
				Dependency Status (-2.134)
				Age (-0.177)

[20]Selected if statistical significance >.01, ordered by size of standardized estimate (largest to smallest), with parameter estimate given in parentheses.

Our conclusion is that work has no impact on the academic performance and very little impact on the academic progress of full-time undergraduate students in Washington's colleges and universities. Neither the number of hours worked nor the rate of pay has a strong impact on a student's grade point average, number of credit hours attempted, or the ratio of credits earned to credits attempted. The small impact that is present is positive for grade point average. For persistence, the regressions show that the working student, on average, will take slightly longer to complete college than the non-worker. However, our estimate is that, on average, the additional time required will be about one-third of an academic term.

Having reached this conclusion, we felt it was important to examine several of the independent variables in relationship to average hours worked per week. To do this, we prepared a series of crosstabulations which are displayed in tables eleven through thirty-seven and discussed below.

Analysis of Crosstabulations

The most interesting observations from the tables include:

- upperclass students have higher grade point averages (Table Eleven)
- State Work Study students generally have higher grade point averages than College Work Study students or non-workers (Table Eleven)
- students who perform well in high school also perform well in college (Table Twelve)
- grades improve as students work more hours per week (up to 20) (Table Thirteen)
- older students do better than younger students (Table Fourteen)
- independent students perform better than dependent students (Table Seventeen)

- students with high financial need do better when working in the State Work Study program (Table Eighteen)
- students who work have a higher course completion rate than non-workers (Table Thirty)

In general, the crosstabulations for credit hours attempted and the ratio of credit hours earned to credit hours attempted show a high degree of consistency across sex, age, need, and financial status (dependent versus independent).

On the following pages notes summarizing the tables are followed by the tables. The notes and tables describe the observed patterns in the data. These patterns are supported by the results of the regression analyses. The tables are organized in three groups: one set for each of the dependent variables discussed previously (grade point average, credit hours attempted, ratio of credit hours earned to credit hours attempted). Within each group, the independent variables are in the following order: year in school, high school grade point average, race, age, gender, marital status, dependency status, financial need, hourly wage.

Within each table, the average for the dependent variable is shown crosstabulated by average hours worked per week and one of the independent variables. As a result, the number of observations in a particular cell may be small, particularly in cases where a variable has been divided into more than two groups (cells with too few cases to reliably observe a pattern are identified with an asterisk).

Highlights of Crosstabulation Tables for Grade Point Average

Table Eleven

1. Overall, the higher the student's class level, the higher the grade point average, except for juniors who work.

2. Students in State Work Study have consistently higher grade point averages than students in College Work Study/Institutional Work Study.

3. For freshmen, grade point average increases as average hours worked per week increases (up to twenty hours per week) for students in both types of work program.

Table Twelve

1. The higher the high school grade point average, the higher the college grade point average.

2. Overall, State Work Study students do better academically than either the non-workers or the College Work Study/Institutional Work Study groups.

3. State Work Study students who work less than ten hours per week have a lower college grade point average than non-workers.

Table Thirteen

1. White students show a higher grade point average regardless of work.

2. Students in State Work Study, regardless of race, have a higher grade point average than non-workers or students in College Work Study/Institutional Work Study.

3. Grade point average generally increases with number of hours worked per week (up to 20).

Table Fourteen

1. Older students perform better than younger students.

2. State Work Study students perform better than College Work Study/Institutional Work Study students, except students over 22 years of age working more than 20 hours.

3. For State Work Study, grade point average for students under 22 years of age increases as work increases. For students over 29 years of age, grade point average decreases as work increases.

Table Fifteen

1. Females perform better than males if they do not work at all or work in College Work Study/Institutional Work Study.

2. For State Work Study students, male students have higher grade point averages than their counterparts in College Work Study/Institutional Work Study.

Table Sixteen

1. Overall, married students generally do better academically than single students.

2. Single students in State Work Study perform better than single students in College Work Study/Institutional Work Study.

Table Seventeen

1. Overall, independent students perform better academically than dependent students.

2. State Work Study students perform better than College Work Study/Institutional Work Study students in both categories.

3. For dependent students, the more hours worked in State Work Study the higher the grade point average. For independent students, the more hours worked in College Work Study/Institutional Work Study, the higher the grade point average.

Table Eighteen

1. Overall, there is very little relationship between number of hours worked and need for any of the groups.

Table Nineteen

1. The higher the average hourly wage the higher the grade point average.

2. In the high wage group (more than $5.00), the more hours worked the higher the grade point average.

Highlights of Crosstabulation Tables for Credit Hours Attempted

Table Twenty

1. Generally, freshman and seniors attempt fewer credit hours than sophomores and juniors.

2. There is no relationship between credit hours attempted and average hours worked per week.

Table Twenty-One

1. For working students, the higher the high school grade point average the more credit hours attempted.

2. For students with low high school grade point averages, non-workers attempt more credit hours than workers.

Table Twenty-Two

1. Race makes no difference in the number of credit hours attempted.

Table Twenty-Three

1. Age makes almost no difference in the number of credit hours attempted.

2. Older State Work Study students who work fewer than ten hours take fewer credits.

Table Twenty-Four

1. Gender makes no difference in the number of credit hours attempted.

Table Twenty-Five

1. Married students attempt slightly more credit hours than single students.

Table Twenty-Six

1. Dependency status makes no difference in number of credit hours attempted.

Table Twenty-Seven

1. In general, the greater the financial need the fewer the credit hours attempted.

Table Twenty-Eight

1. Wages make no difference in number of credit hours attempted.

Highlights of Crosstabulations for Ratio of Credit Hours Earned to Credit Hours Attempted

Table Twenty-Nine

1. The ratio of credit hours earned to credit hours attempted increases as year in school increases.

2. There is a slight tendency for upper division students to complete fewer of the credits attempted as the average number of hours worked per week increases.

Table Thirty

1. As high school grade point average increases, the ratio of credit hours earned to credit hours attempted increases, especially for College Work Study/Institutional Work Study students working more than 15 hours per week.

2. Generally, students who work have a higher completion rate than non-workers.

Table Thirty-One

1. Whites complete a higher ratio than non-whites.

2. As non-white students work more hours, their completion ratio declines, yet generally remains at or above the rate for non-workers. The decline is particularly noticeable in the State Work Study program.

Table Thirty-Two

1. Age has no relationship to credit hours completed.

Table Thirty-Three

1. Gender has no relationship to credit hours completed.

Table Thirty-Four

1. Married students show a slight tendency to complete a higher ratio of credit hours earned to credit hours attempted.

Table Thirty-Five

1. Dependency status has no relationship to credit hours completed.

Table Thirty-Six

1. Need has no relationship to credit hours completed.

Table Thirty-Seven

1. There is a very slight tendency for students to complete a higher ratio if they are paid a higher hourly wage.

TABLE ELEVEN

AVERAGE GRADE POINT AVERAGE BY YEAR IN SCHOOL
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Year in School			
	Freshman	Sophomore	Junior	Senior
Number of Hours Worked and Work Program				
No (0) Hours Worked	2.74	2.88	2.93	3.01
1-9 Hours Worked				
SWS	2.71	3.03	3.01	3.05
CWS or IWS	2.63	2.81	2.77	2.84
10-14 Hours Worked				
SWS	2.85	2.91	2.91	3.16
CWS or IWS	2.68	2.86	2.94	3.09
15-20 Hours Worked				
SWS	3.05	3.08	2.99	3.23
CWS or IWS	2.85	2.93	2.92	3.11
21-40 Hours Worked				
SWS	2.95*	3.23*	2.57*	3.17*
CWS or IWS	2.55*	3.00*	2.42*	3.19*
Any Hours Worked				
SWS	2.86	2.99	2.95	3.15
CWS or IWS	2.70	2.86	2.88	3.01

TABLE TWELVE

AVERAGE GRADE POINT AVERAGE BY HIGH SCHOOL GRADE POINT AVERAGE AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

Number of Hours Worked and Work Program	High School Grade Point Average		
	Less than 2.50	2.50 - 3.49	More than 3.49
No (0) Hours Worked	2.44	2.76	3.16
1-9 Hours Worked			
SWS	2.15*	2.69	3.09
CWS or IWS	2.48*	2.61	3.07
10-14 Hours Worked			
SWS	2.43*	2.87	3.21
CWS or IWS	2.54*	2.74	3.12
15-20 Hours Worked			
SWS	2.81*	2.95	3.28
CWS or IWS	2.39*	2.80	3.19
21-40 Hours Worked			
SWS	--	3.33*	2.68*
CWS or IWS	1.88*	2.53*	3.32*
Any Hours Worked			
SWS	2.52	2.84	3.20
CWS or IWS	2.47	2.70	3.12

TABLE THIRTEEN

AVERAGE GRADE POINT AVERAGE BY STUDENT RACE
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Student Race	
	White	Non-White
Number of Hours Worked and Work Program		
No (0) Hours Worked	2.97	2.75
1-9 Hours Worked		
SWS	3.00	2.84
CWS or IWS	2.80	2.56
10-14 Hours Worked		
SWS	3.02	2.77
CWS or IWS	2.92	2.79
15-20 Hours Worked		
SWS	3.19	2.87
CWS or IWS	3.03	2.78
21-40 Hours Worked		
SWS	3.09*	2.89*
CWS or IWS	3.00	2.34*
Any Hours Worked		
SWS	3.05	2.82
CWS or IWS	2.90	2.72

TABLE FOURTEEN

AVERAGE GRADE POINT AVERAGE BY STUDENT AGE
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Student Age		
	Less than 22	22 - 29	More than 29
Number of Hours Worked and Work Program			
No (0) Hours Worked	2.87	2.95	3.10
1-9 Hours Worked			
SWS	2.81	3.11	3.25
CWS or IWS	2.75	2.81	2.83
10-14 Hours Worked			
SWS	2.89	3.04	3.15
CWS or IWS	2.85	2.97	3.11
15-20 Hours Worked			
SWS	3.02	3.22	3.13
CWS or IWS	2.90	2.99	3.11
21-40 Hours Worked			
SWS	3.31*	2.91*	2.80*
CWS or IWS	2.60*	3.26*	2.86*
Any Hours Worked			
SWS	2.90	3.08	3.16
CWS or IWS	2.82	2.94	3.02

TABLE FIFTEEN

AVERAGE GRADE POINT AVERAGE BY STUDENT GENDER
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Student Gender	
	Male	Female
Number of Hours Worked and Work Program		
No (0) Hours Worked	2.87	2.97
1-9 Hours Worked		
SWS	2.97	2.98
CWS or IWS	2.71	2.81
10-14 Hours Worked		
SWS	3.01	2.95
CWS or IWS	2.81	2.97
15-20 Hours Worked		
SWS	3.05	3.13
CWS or IWS	3.00	2.91
21-40 Hours Worked		
SWS	3.06*	3.02*
CWS or IWS	2.84*	3.04*
Any Hours Worked		
SWS	3.01	3.00
CWS or IWS	2.82	2.91

TABLE SIXTEEN
AVERAGE GRADE POINT AVERAGE BY STUDENT MARITAL STATUS
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

Number of Hours Worked and Work Program	Student Marital Status: Married	Unmarried
No (0) Hours Worked	3.04	2.91
1-9 Hours Worked		
SWS	3.18	2.95
CWS or IWS	3.19	2.74
10-14 Hours Worked		
SWS	3.07	2.97
CWS or IWS	3.22	2.88
15-20 Hours Worked		
SWS	3.23	3.09
CWS or IWS	3.03*	2.94
21-40 Hours Worked		
SWS	2.40*	3.13
CWS or IWS	3.40*	2.87
Any Hours Worked		
SWS	3.12	2.99
CWS or IWS	3.17	2.85

TABLE SEVENTEEN

AVERAGE GRADE POINT AVERAGE BY STUDENT DEPENDENCY STATUS AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

Number of Hours Worked and Work Program	Student Dependency Status: Dependent	Student Dependency Status: Independent
No (0) Hours Worked	2.88	2.96
1-9 Hours Worked		
SWS	2.83	3.14
CWS or IWS	2.75	2.83
10-14 Hours Worked		
SWS	2.89	3.05
CWS or IWS	2.84	3.00
15-20 Hours Worked		
SWS	2.99	3.20
CWS or IWS	2.86	3.05
21-40 Hours Worked		
SWS	3.40*	2.85*
CWS or IWS	2.61*	3.24*
Any Hours Worked		
SWS	2.90	3.10
CWS or IWS	2.81	2.97

TABLE EIGHTEEN

AVERAGE GRADE POINT AVERAGE BY FINANCIAL NEED
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Financial Need			
	Less than $3,000	$3,000 to $5,999	$6,000 to $8,999	More than $8,999
Number of Hours Worked and Work Program				
No (0) Hours Worked	2.93	2.90	2.94	2.92
1-9 Hours Worked				
SWS	2.72	3.00	3.01	2.87*
CWS or IWS	2.80	2.72	2.81	2.99
10-14 Hours Worked				
SWS	2.90	2.96	2.99	3.09
CWS or IWS	2.94	2.86	2.99	2.95
15-20 Hours Worked				
SWS	2.79*	3.12	3.12	3.03
CWS or IWS	3.11*	2.95	2.90	3.09
21-40 Hours Worked				
SWS	3.03*	3.25*	2.84*	2.72*
CWS or IWS	3.21*	2.90*	2.51*	3.51*
Any Hours Worked				
SWS	2.82	3.00	3.03	3.02
CWS or IWS	2.89	2.83	2.90	3.03

TABLE NINETEEN

AVERAGE GRADE POINT AVERAGE BY AVERAGE HOURLY WAGE
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Average Hourly Wage		
	Less than $3.49	$3.50 - $5.00	More than $5.00
Number of Hours Worked and Work Program			
No (0) Hours Worked	--	--	--
1-9 Hours Worked			
SWS	2.90*	2.92	3.03
CWS or IWS	2.69	2.78	2.93
10-14 Hours Worked			
SWS	2.96	2.91	3.16
CWS or IWS	2.81	2.94	3.04
15-20 Hours Worked			
SWS	--	3.09	3.13
CWS or IWS	2.77	2.93	3.11
21-40 Hours Worked			
SWS	3.15*	2.85*	3.48*
CWS or IWS	2.94*	2.85*	3.41*
Any Hours Worked			
SWS	2.94	2.95	3.11
CWS or IWS	2.77	2.88	3.06

TABLE TWENTY

CREDIT HOURS ATTEMPTED BY YEAR IN SCHOOL
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Year in School			
	Freshman	Sophomore	Junior	Senior
Number of Hours Worked and Work Program				
No (0) Hours Worked	15.07	15.23	15.11	15.16
1-9 Hours Worked				
SWS	15.07	15.39	15.27	14.85
CWS or IWS	14.74	14.95	14.91	15.22
10-14 Hours Worked				
SWS	14.94	15.09	15.08	15.04
CWS or IWS	15.05	15.19	15.17	14.81
15-20 Hours Worked				
SWS	14.97	15.03	15.21	15.33
CWS or IWS	15.23	15.13	15.02	14.80
21-40 Hours Worked				
SWS	14.86*	15.85*	14.63*	14.00*
CWS or IWS	14.90*	15.21*	14.25*	15.44*
Any Hours Worked				
SWS	14.98	15.18	15.14	15.04
CWS or IWS	14.98	15.09	15.04	14.98

TABLE TWENTY-ONE

CREDIT HOURS ATTEMPTED BY HIGH SCHOOL GRADE POINT AVERAGE AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

Number of Hours Worked and Work Program	High School Grade Point Average		
	Less than 2.50	2.50 - 3.49	More than 3.49
No (0) Hours Worked	15.33	15.01	15.17
1-9 Hours Worked			
SWS	14.55*	14.96	15.46
CWS or IWS	14.59*	14.82	14.88
10-14 Hours Worked			
SWS	14.50*	15.05	15.34
CWS or IWS	14.21*	14.90	15.17
15-20 Hours Worked			
SWS	14.63*	15.05	15.37
CWS or IWS	15.08*	15.28	14.86
21-40 Hours Worked			
SWS	--	14.67*	13.60*
CWS or IWS	12.67*	15.00*	15.92*
Any Hours Worked			
SWS	14.57	15.03	15.35
CWS or IWS	14.39	14.94	15.01

TABLE TWENTY-TWO

CREDIT HOURS ATTEMPTED BY STUDENT RACE
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Student Race	
	White	Non-White
Number of Hours Worked and Work Program		
No (0) Hours Worked	15.18	15.02
1-9 Hours Worked		
SWS	15.12	15.26
CWS or IWS	14.95	15.05
10-14 Hours Worked		
SWS	15.01	15.21
CWS or IWS	15.09	14.72
15-20 Hours Worked		
SWS	15.17	15.04
CWS or IWS	15.00	15.19
21-40 Hours Worked		
SWS	15.63*	13.90*
CWS or IWS	15.19	14.67*
Any Hours Worked		
SWS	15.08	15.14
CWS or IWS	15.03	15.01

TABLE TWENTY-THREE

CREDIT HOURS ATTEMPTED BY STUDENT AGE
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Student Age		
	Less than 22	22 - 29	More than 29
Number of Hours Worked and Work Program			
No (0) Hours Worked	15.14	15.12	15.25
1-9 Hours Worked			
SWS	15.29	15.13	14.51
CWS or IWS	14.93	14.96	15.47
10-14 Hours Worked			
SWS	15.10	14.94	15.41
CWS or IWS	15.12	14.91	15.08
15-20 Hours Worked			
SWS	15.04	15.32	15.07
CWS or IWS	15.11	15.07	14.70
21-40 Hours Worked			
SWS	14.13*	15.53*	16.50*
CWS or IWS	15.30*	15.16*	13.33*
Any Hours Worked			
SWS	15.13	15.06	15.06
CWS or IWS	15.05	14.96	15.05

TABLE TWENTY-FOUR

CREDIT HOURS ATTEMPTED BY STUDENT GENDER
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Student Gender	
	Male	Female
Number of Hours Worked and Work Program		
No (0) Hours Worked	15.17	15.11
1-9 Hours Worked		
SWS	15.13	15.15
CWS or IWS	15.20	14.79
10-14 Hours Worked		
SWS	15.11	15.01
CWS or IWS	14.98	15.10
15-20 Hours Worked		
SWS	15.29	15.03
CWS or IWS	15.13	15.01
21-40 Hours Worked		
SWS	14.70*	15.70*
CWS or IWS	14.65*	15.70*
Any Hours Worked		
SWS	15.14	15.06
CWS or IWS	15.08	14.98

TABLE TWENTY-FIVE

CREDIT HOURS ATTEMPTED BY STUDENT MARITAL STATUS
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Student Marital Status	
	Married	Unmarried
Number of Hours Worked and Work Program		
No (0) Hours Worked	15.33	15.13
1-9 Hours Worked		
SWS	15.56	15.11
CWS or IWS	15.12	14.96
10-14 Hours Worked		
SWS	15.03	15.05
CWS or IWS	14.97	15.06
15-20 Hours Worked		
SWS	15.11	15.14
CWS or IWS	15.85	15.00
21-40 Hours Worked		
SWS	15.40*	15.17
CWS or IWS	16.13*	15.00
Any Hours Worked		
SWS	15.20	15.09
CWS or IWS	15.29	15.01

TABLE TWENTY-SIX

CREDIT HOURS ATTEMPTED BY STUDENT DEPENDENCY STATUS AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

Number of Hours Worked and Work Program	Student Dependency Status: Dependent	Student Dependency Status: Independent
No (0) Hours Worked	15.11	15.21
1-9 Hours Worked		
SWS	15.13	15.16
CWS or IWS	14.91	15.10
10-14 Hours Worked		
SWS	15.05	15.05
CWS or IWS	15.09	15.02
15-20 Hours Worked		
SWS	15.18	15.09
CWS or IWS	14.98	15.14
21-40 Hours Worked		
SWS	14.21*	15.73*
CWS or IWS	14.77*	15.48*
Any Hours Worked		
SWS	15.09	15.10
CWS or IWS	15.00	15.08

TABLE TWENTY-SEVEN

CREDIT HOURS ATTEMPTED BY FINANCIAL NEED
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Financial Need			
	Less than $3,000	$3,000 to $5,999	$6,000 to $8,999	More than $8,999
Number of Hours Worked and Work Program				
No (0) Hours Worked	15.33	15.17	15.06	14.96
1-9 Hours Worked				
SWS	15.23	15.18	14.98	15.36
CWS or IWS	15.23	14.92	15.05	14.64
10-14 Hours Worked				
SWS	15.61	15.14	14.79	14.59
CWS or IWS	15.41	15.22	14.69	14.48
15-20 Hours Worked				
SWS	15.88*	15.14	14.99	15.29
CWS or IWS	13.95*	15.07	14.96	15.73
21-40 Hours Worked				
SWS	16.50*	14.95*	15.62*	14.60*
CWS or IWS	15.00*	15.04*	14.50*	16.38*
Any Hours Worked				
SWS	15.48	15.15	14.91	15.00
CWS or IWS	15.19	15.08	14.88	14.93

TABLE TWENTY EIGHT

CREDIT HOURS ATTEMPTED BY AVERAGE HOURLY WAGE
AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Average Hourly Wage		
	Less than $3.49	$3.50 - $5.00	More than $5.00
Number of Hours Worked and Work Program			
No (0) Hours Worked	--	--	--
1-9 Hours Worked			
SWS	14.42*	15.36	14.98
CWS or IWS	15.01	14.96	14.71
10-14 Hours Worked			
SWS	14.99	15.07	15.04
CWS or IWS	15.12	15.00	15.00
15-20 Hours Worked			
SWS	--	15.16	15.11
CWS or IWS	14.95	15.11	14.97
21-40 Hours Worked			
SWS	15.50*	15.52*	14.36*
CWS or IWS	15.28*	14.87*	16.29*
Any Hours Worked			
SWS	14.93	15.17	15.03
CWS or IWS	15.06	15.01	14.96

TABLE TWENTY--NINE

RATIO OF CREDIT HOURS EARNED TO CREDIT HOURS ATTEMPTED BY YEAR IN SCHOOL AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Year in School			
	Freshman	Sophomore	Junior	Senior
Number of Hours Worked and Work Program				
No (0) Hours Worked	89%	91%	92%	92%
1-9 Hours Worked				
SWS	90%	95%	98%	100%
CWS or IWS	93%	96%	95%	95%
10-14 Hours Worked				
SWS	91%	92%	90%	92%
CWS or IWS	90%	94%	90%	94%
15-20 Hours Worked				
SWS	91%	90%	93%	96%
CWS or IWS	88%	93%	91%	94%
21-40 Hours Worked				
SWS	90%*	92%*	91%*	93%*
CWS or IWS	91%*	97%*	93%*	96%*
Any Hours Worked				
SWS	91%	92%	93%	95%
CWS or IWS	91%	95%	92%	94%

TABLE THIRTY

RATIO OF CREDIT HOURS EARNED TO CREDIT HOURS ATTEMPTED
BY HIGH SCHOOL GRADE POINT AVERAGE AND NUMBER OF HOURS WORKED PER WEEK,
BY WORK PROGRAM

	High School Grade Point Average		
	Less than 2.50	2.50 - 3.49	More than 3.49
Number of Hours Worked and Work Program			
No (0) Hours Worked	83%	90%	93%
1-9 Hours Worked			
SWS	84%*	95%	97%
CWS or IWS	95%*	95%	95%
10-14 Hours Worked			
SWS	95%*	90%	93%
CWS or IWS	91%*	91%	94%
15-20 Hours Worked			
SWS	90%*	91%	91%
CWS or IWS	85%*	90%	95%
21-40 Hours Worked			
SWS	--	100%*	95%*
CWS or IWS	81%*	93%*	99%*
Any Hours Worked			
SWS	89%	92%	94%
CWS or IWS	90%	92%	95%

TABLE THIRTY-ONE

RATIO OF CREDIT HOURS EARNED TO CREDIT HOURS ATTEMPTED BY STUDENT RACE AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

Number of Hours Worked and Work Program	Student Race	
	White	Non-White
No (0) Hours Worked	93%	87%
1-9 Hours Worked		
SWS	97%	93%
CWS or IWS	95%	91%
10-14 Hours Worked		
SWS	91%	91%
CWS or IWS	93%	89%
15-20 Hours Worked		
SWS	95%	87%
CWS or IWS	94%	86%
21-40 Hours Worked		
SWS	96%*	78%*
CWS or IWS	96%	87%*
Any Hours Worked		
SWS	93%	90%
CWS or IWS	94%	88%

TABLE THIRTY-TWO

RATIO OF CREDIT HOURS EARNED TO CREDIT HOURS ATTEMPTED
BY STUDENT AGE AND NUMBER OF HOURS WORKED PER WEEK,
BY WORK PROGRAM

	Student Age		
	Less than 22	22 - 29	More than 29
Number of Hours Worked and Work Program			
No (0) Hours Worked	91%	91%	92%
1-9 Hours Worked			
SWS	95%	98%	94%
CWS or IWS	95%	94%	95%
10-14 Hours Worked			
SWS	91%	91%	92%
CWS or IWS	93%	91%	93%
15-20 Hours Worked			
SWS	91%	94%	94%
CWS or IWS	92%	91%	90%
21-40 Hours Worked			
SWS	90%*	90%*	97%*
CWS or IWS	93%*	97%*	100%*
Any Hours Worked			
SWS	92%	93%	94%
CWS or IWS	93%	92%	93%

TABLE THIRTY-THREE

RATIO OF CREDIT HOURS EARNED TO CREDIT HOURS ATTEMPTED BY STUDENT GENDER AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Student Gender	
	Male	Female
Number of Hours Worked and Work Program		
No (0) Hours Worked	91%	92%
1-9 Hours Worked		
SWS	96%	96%
CWS or IWS	94%	95%
10-14 Hours Worked		
SWS	91%	91%
CWS or IWS	91%	93%
15-20 Hours Worked		
SWS	93%	92%
CWS or IWS	90%	92%
21-40 Hours Worked		
SWS	88%*	94%*
CWS or IWS	94%*	97%*
Any Hours Worked		
SWS	93%	93%
CWS or IWS	92%	94%

TABLE THIRTY--FOUR

RATIO OF CREDIT HOURS EARNED TO CREDIT HOURS ATTEMPTED BY STUDENT MARITAL STATUS AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Student Marital Status	
	Married	Unmarried
Number of Hours Worked and Work Program		
No (0) Hours Worked	92%	91%
1-9 Hours Worked		
SWS	100%	95%
CWS or IWS	98%	95%
10-14 Hours Worked		
SWS	90%	91%
CWS or IWS	97%	92%
15-20 Hours Worked		
SWS	95%	92%
CWS or IWS	91%	92%
21-40 Hours Worked		
SWS	95%*	91%
CWS or IWS	100%*	95%
Any Hours Worked		
SWS	95%	93%
CWS or IWS	96%	93%

TABLE THIRTY-FIVE

RATIO OF CREDIT HOURS EARNED TO CREDIT HOURS ATTEMPTED
BY STUDENT DEPENDENCY STATUS AND NUMBER OF HOURS WORKED PER WEEK,
BY WORK PROGRAM

	Student Dependency Status	
	Dependent	Independent
Number of Hours Worked and Work Program		
No (0) Hours Worked	92%	91%
1-9 Hours Worked		
SWS	95%	97%
CWS or IWS	95%	94%
10-14 Hours Worked		
SWS	92%	90%
CWS or IWS	92%	92%
15-20 Hours Worked		
SWS	91%	93%
CWS or IWS	93%	90%
21-40 Hours Worked		
SWS	87%*	94%*
CWS or IWS	93%*	98%*
Any Hours Worked		
SWS	93%	93%
CWS or IWS	93%	92%

TABLE THIRTY SIX

RATIO OF CREDIT HOURS EARNED TO CREDIT HOURS ATTEMPTED BY FINANCIAL NEED AND NUMBER OF HOURS WORKED PER WEEK, BY WORK PROGRAM

	Financial Need			
Number of Hours Worked and Work Program	Less than $3,000	$3,000 to $5,999	$6,000 to $8,999	More than $8,999
No (0) Hours Worked	92%	91%	91%	91%
1-9 Hours Worked				
SWS	96%	96%	95%	95%
CWS or IWS	97%	94%	95%	95%
10-14 Hours Worked				
SWS	92%	91%	91%	92%
CWS or IWS	94%	92%	93%	93%
15-20 Hours Worked				
SWS	96%*	91%	94%	93%
CWS or IWS	96%*	91%	92%	92%
21-40 Hours Worked				
SWS	66%*	95%*	90%*	90%*
CWS or IWS	91%*	96%*	86%*	100%*
Any Hours Worked				
SWS	94%	93%	93%	93%
CWS or IWS	96%	92%	93%	94%

TABLE THIRTY-SEVEN

RATIO OF CREDIT HOURS EARNED TO CREDIT HOURS ATTEMPTED
BY AVERAGE HOURLY WAGE AND NUMBER OF HOURS WORKED PER WEEK,
BY WORK PROGRAM

	Average Hourly Wage		
	Less than $3.49	$3.50 - $5.00	More than $5.00
Number of Hours Worked and Work Program			
No (0) Hours Worked	--	--	--
1-9 Hours Worked			
SWS	99%*	95%	97%
CWS or IWS	94%	95%	100%
10-14 Hours Worked			
SWS	89%	90%	95%
CWS or IWS	91%	93%	90%
15-20 Hours Worked			
SWS	--	92%	94%
CWS or IWS	91%	92%	92%
21-40 Hours Worked			
SWS	89%*	92%*	91%*
CWS or IWS	95%*	94%*	100%*
Any Hours Worked			
SWS	90%	92%	96%
CWS or IWS	92%	93%	93%

Results of the Survey of Washington Campus Administrators

The survey of campus administrators asked for experiential judgments about the effect of working on academic performance and persistence. The results are summarized below.

Academic Performance

Survey responses show that, in the opinion of campus administrators, students who work part-time perform better academically than students who do not work. Respondents believe there is a correlation between the number of hours worked and academic performance, though opinion is somewhat split as to whether the correlation is positive or negative. There is slight indication, however, that students who work 15-20 hours per week tend to perform better academically than students who work under 10 hours. The location of the work, on-campus or off-campus, is not generally thought to affect academic performance; though, among those who believe it does, students who work on-campus perform better. Students who work in an academic or career area of interest perform at least as well as, if not better than, their counterparts in unrelated jobs. Single students without dependents who have average or high prior GPA's were identified as performing better academically if they work than students who lack these characteristics. Other factors identified by survey respondents as being positively related to academic performance include good time management, motivation, healthy self-esteem, and a good support system. Freshman students who are single with dependents and who have low prior GPA's were identified as performing better academically if they do not work. Other factors associated with poor academic performance include

unrealistic goals, lack of commitment or motivation, self-doubt, and family problems. Age, sex, race and financial status (dependent or independent) were not believed to be related to academic performance.

- Seventy-one percent of the respondents say that students who work 20 or fewer hours per week (part-time) perform better academically than students who do not work. Twenty-four percent say that part-time work does not effect academic performance.

- Sixty-seven percent feel that there is a correlation between the number of hours worked and academic performance. Of these, 57 percent feel that students who work more (15-20 hours per week) do better academically than students who work less (under 10 hours per week), while 43 percent indicate that students who work more do worse than those who work less.

- Seventy-one percent of the respondents believe there is a relationship between average prior GPA and academic performance. Of these, 94 percent believe that the relationship is positive.

- Sixty-five percent believe that high prior GPA is related to academic performance. Of these, 93 percent believe that it is positively related.

- Seventy-one percent indicate that being single with dependents is related to academic performance. Of these, 94 percent feel that it is negatively related.

- Fifty-nine percent of the respondents say there is a correlation between being single without dependents and academic performance. Of these, 97 percent feel these factors are positively correlated.

- Sixty-two percent of those responding feel that there is no difference in the academic performance of students who work on-campus versus those who work off-campus. However, of those who believe that there is a correlation between work location and academic performance, 85 percent indicate that students who work on-campus tend to perform better academically than those working off-campus.

- Fifty-four percent indicate that students who work in jobs related to their academic or career area of interest perform better academically than students whose jobs are not academically or career related. However, 44 percent indicate that there is no correlation between academic or career related jobs and academic performance.

Persistence

Survey results indicate that, according to campus administrators, part-time work has a positive effect on a student's persistence. Working students have a higher degree completion rate than non-working students particularly if the job is in an academic or career area of interest. There is a trend in the last ten years for all students, working or non-working, to take longer to complete their undergraduate degrees, and part-time work in response to rising college costs is at least a somewhat significant factor in this trend. Opinion is split as to whether the location of the work, on-campus or off-campus, makes a difference with regard to retention. Among those who believe it does, however, students who work on-campus are more likely to remain enrolled than students who work off-campus. Sophomore students with average or high prior GPA's who are over 23 years of age and single without dependents or married were identified as performing better academically if they work than students who lack these characteristics. Other factors identified by the survey respondents as being positively related to retention include motivation, healthy self-esteem, a good support system, and positive campus involvement. Freshman students under 23 years of age with low prior GPA's who are single with dependents were identified as performing better academically if they do not work. Others factors associated with poor academic performance include a poor support system, inability to balance demands, and lack of commitment or motivation. Sex, race and financial status appear to be unrelated to retention.

- Eighty-four percent of respondents say that there is a trend over the last ten years for all students to take longer to complete their undergraduate degrees, and 67 percent indicated that part-time work is at least a somewhat significant factor in this trend.

- Eighty-seven percent feel that working part-time has a positive effect on a student's retention, and 38 percent of these feel it was a strong positive effect.

- Seventy-eight percent of the respondents feel that working students have a higher degree completion rate than non-working students.

- Ninety percent of the survey respondents indicate that working in a career or academically related job tends to improve a student's chances of degree completion.

- Eighty-one percent believe that low GPA is related to retention. Of these, 89 percent feel that it is negatively related.

- Seventy-three percent of the respondents believe that high GPA is positively related to retention.

- Seventy-eight percent indicate that being single with dependents is related to retention. Of these, 75 percent feel that these factors are negatively related.

- Fifty-eight percent of those responding feel that being single without dependents is related to retention. Of these, 94 percent indicate that it is positively related.

- Seventy percent indicate that GPA is positively related to retention.

- Sixty-four percent feet that there is a relationship between being under 23 years of age and retention. Of these, 61 percent indicate that the relationship is negative.

- Fifty-two percent of the respondents indicate that being 23 to 30 years of age is related to retention. Of these, 86 percent feel it is positively related.

- Fifty-one percent indicate that there is a relationship between being over 30 years of age and retention. Of these, 77 percent say that it is a positive relationship.

- Fifty-six percent of the respondents indicate that there is a correlation between freshman standing and retention. Of these, 72 percent feel that these factors are negatively correlated.

- Fifty percent of those responding say that sophomore standing and retention are related. Of those, 83 percent feel that the relationship is positive.

- Fifty-four percent believe that being married is related to retention. Of these, 90 percent felt that it is positively related.

- Fifty-three percent indicate that work location (on-campus or off-campus) makes a difference in retention, while 48 percent feel it makes no difference. Of those who feel that work location is important, 91 percent believe that students who work on campus are more likely to remain enrolled than students working off-campus.

Student Survey Results

Twenty-nine percent of the students in the sample returned usable surveys (N = 1044). The most important information sought through the student surveys was information on the extent of work undertaken outside of work-study programs. We planned to use this information to reflect a complete picture of students' total employment. However, less than 20 percent of the students responding to the survey indicated the amount of time spent on outside work.[21] We decided, therefore, not to undertake additional regression analyses. We did, however, examine the survey results to ascertain student opinions on working. This information is summarized below.

Table Thirty-Eight compares the basic demographic and financial aid characteristics of the sample population and the survey population. The survey population is biased toward white females who are single, dependent, and come from families with higher incomes. This group has lower financial need, received less in grants and worked about the same number of hours per week.

[21] Of those who did report outside work, almost 90 percent report having only one job and working an average of 15 hours per week.

TABLE THIRTY-EIGHT

COMPARISON OF ALL STUDENTS IN THE STUDY WITH STUDENTS WHO RETURNED SURVEYS, BY GROUP, 1983-84

	Group One (SWS)		Group Two (CWS/IWS)		Group Three (Non-Workers)	
	All Students	Survey Students	All Students	Survey Students	All Students	Survey Students
Average Age	23.0	23.6	21.9	21.3	22.7	22.5
Sex						
Male	43.1%	37.1%	43.2%	35.8%	49.7%	54.8%
Female	56.9%	62.9%	56.8%	64.2%	50.3%	55.2%
Race						
White	78.5%	84.6%	83.3%	87.9%	75.8%	80.6%
Other	21.5%	15.4%	16.7%	12.1%	24.2%	19.4%
High School GPA	3.28	3.27	3.27	3.39	3.28	3.29
Dependency Status						
Dependent	48.4%	52.6%	62.1%	70.5%	54.0%	59.4%
Independent	51.6%	47.4%	37.9%	29.5%	46.0%	40.6%
Marital Status						
Married	7.8%	4.0%	6.4%	3.0%	8.0%	5.1%
Single	92.2%	96.0%	93.6%	97.0%	92.0%	94.9%
Parental Income	$20,794	$22,569	$21,456	$22,957	$21,087	$20,784
Year In School						
Freshman	16.3%	14.9%	21.4%	28.0%	16.5%	23.3%
Sophomore	30.0%	25.1%	33.3%	30.2%	24.9%	22.4%
Junior	25.4%	27.4%	20.8%	21.6%	24.1%	24.3%
Senior	28.6%	32.6%	24.5%	20.2%	32.3%	30.0%
Average Hours Worked Per Week	11.7	11.9	11.3	10.8	-0-	-0-
Wages ($/hr)*	$4.70	$4.64	$3.85	$3.84	-0-	-0-
Need	$5,767	$5,482	$5,497	$5,321	$5,175	$5,034
Grant*	$1,841	$1,620	$1,805	$1,699	$1,590	$1,503
Loan*	$ 950	$ 891	$ 813	$ 828	$1,194	$1,203

TABLE THIRTY-EIGHT Continued

	Group One (SWS)		Group Two (CWS/IWS)		Group Three (Non-Workers)	
	All Students	Survey Students	All Students	Survey Students	All Students	Survey Students
College Work Study Award*	$ 715	$ 688	$1,079	$1,025	$ 741	$ 704
% with non-zero amount	17.7%	15.7%	73.2%	70.8%	12.7%	14.0%
Inst. Work Study Award*	$ 308	$ 272	$ 660	$ 655	$ 703	$ 679
% with non-zero amount	7.0%	4.8%	24.1%	23.6%	7.3%	8.0%
State Work Study Award*	$1,426	$1,389	$1,059	$1,170	$ 901	$ 789
% with non-zero amount	90.2%	90.1%	19.6%	19.9%	14.8%	17.5%

* Award is the average for those receiving any non-zero amount.

Table Thirty-Nine shows the response to the question, "Were you concerned about your ability to finance your college education (after you knew how much financial aid you would receive)?" In general, responses for each of the three groups were very similar with over half in each group having some concern and more than one-third being very concerned.

TABLE THIRTY-NINE

STUDENT CONCERN ABOUT PAYING FOR COLLEGE, BY GROUP

	Group One (SWS)	Group Two (CWS/IWS	Group Three (Non-Workers)
Not Concerned	6.8%	7.9%	10.8%
Some Concern	57.3%	51.5%	53.7%
Major Concern	35.9%	40.6%	35.4%

Table Forty shows responses to the question, "Did working part-time have any effect on your academic performance while in college?" Only students who worked responded to this question. The responses are very similar by group, indicating no significant difference between students' experiences in State Work Study or College/Institutional Work Study on this dimension. Over forty percent of both groups felt that working did not affect their academic performance, while over ten percent felt that working had a positive influence on their academic performance. The remaining respondents, just under one-half, felt that working was detrimental to their academic performance.

TABLE FORTY

STUDENT PERCEPTIONS OF THE EFFECT OF WORKING ON ACADEMIC PERFORMANCE

	Group One (SWS)	Group Two (CWS/IWS)
Working part-time did not affect my academic performance	42.9%	41.9%
Working part-time improved my academic performance	11.0%	11.8%
Working part-time hurt my academic performance	46.1%	46.4%

The next question for working students was, "Did working part-time have any effect on your decision to continue in college?" Respondents were invited to check as many responses as appropriate, therefore, percentages do not add to 100. Responses are summarized in Table Forty-One. Almost one-quarter of the respondents said that working had no impact on their decision to continue

in college. Roughly two-thirds acknowledged that working was helpful in paying college bills. By a margin of almost 2-to-1, College/Institutional Work Study students said that working made them feel more a part of the college. Students in State Work Study, on the other hand, were more apt to feel that their work experience, coupled with their degree, would enable them to get a better job. Only a few students reported that their part-time work led to a full-time job before they completed a degree.

TABLE FORTY-ONE

THE EFFECT OF WORKING ON STUDENTS' DECISIONS TO CONTINUE IN COLLEGE

	Group One (SWS)	Group Two (CWS/IWS)
Working had no effect on my decision to stay in college	23.3%	21.4%
Working enabled my to pay my college bills	62.3%	70.8%
Working made me feel more a part of the college	10.1%	18.8%
Working, combined with my degree, would enable me to get a better job	41.7%	32.2%
Working led to a permanent full-time job so I dropped out of school without completing my degree	1.8%	1.6%

The next question was, "Did working part-time force you to slow down your progress toward a degree?" Two-thirds of the respondents in both groups said no. Of the one-third who said yes, the average additional number of terms needed to achieve a degree was 2.2 for State Work Study students and 2.9 for College/Institutional Work Study students.

Summary and Conclusions

The purpose of the study was to examine five questions about the impact of working on academic performance and retention. Our conclusions are given below.

Question 1. Do students who are employed part-time perform as well academically as those who are not employed?

Overall, the answer is yes. The regression analysis shows that work (as measured in number of hours worked per week and wages paid) is not a factor in predicting a student's college grade point average. That is, there is no relationship between working and grade point average. Of all the variables we included in the regression equation, high school grade point average is the best predictor of college grade point average. The number of hours worked was a significant variable in predicting grade point average and its effect was positive. However, in practical terms the number of hours worked had very little impact on grade point average. The analysis of the crosstabulations shows that the longer a student is in school, the higher the grade point average, regardless of the work experience. For workers, grade point average generally increases with number of hours worked per week (up to 20), except for students over 29 years of age in the State Work Study program.

Administrators feel that students who work do better academically than students who do not work. Analysis of the crosstabulation data supports this belief for students in the State Work Study Program but does not support it for students in College/Institutional Work Study. Over one-half of the administrators also feel that working in a career-related field improved

academic performance. Our findings support this belief if the assumption that State Work Study is a proxy for career-related work is accurate.

Students are split in their perceptions of the effect of working on their academic performance. Forty-three percent reported that working part-time did not affect their academic performance; 11 percent reported that working improved their academic performance; and 46 percent reported that working hurt their academic performance. We did not find data in the study to support the feelings of this latter group.

Question 2. Is there a relationship between the number of hours worked and academic performance?

The multiple regression results show that there is a positive, yet weak, relationship between number of hours worked and academic performance. Analysis of the crosstabulations shows that freshman, sophomores and seniors who work 10-20 hours per week do slightly better academically than non-workers or workers who work either few hours (less than 10 hours per week) or many hours (more than 20 hours per week).

Two-thirds of the administrators feel that there is a relationship between working and academic performance. A majority of these believe that the more a student works (up to some reasonable limit), the higher the grade point average is likely to be, which is supported by our analysis.

Question 3. What impact does working part-time have on student persistence?

The multiple regression results indicate that there is no relationship between the number of credit hours attempted and working. There is, however, a slightly negative relationship between the ratio of credit hours earned to credit hours attempted and working. On average this relationship translates

into working students taking one third of one term longer than non-workers to complete a degree program.

Administrators report an overall trend for students of all types to take longer to complete a degree and that working students are more likely to remain in college through the completion of a degree. They cited several other factors as contributing to both academic performance and persistence - good time management, motivation, level of self-esteem, a good support system.

Again, student perceptions are split. Two-thirds feel working enabled them to meet their college expenses, thus allowing them to remain enrolled. One-fifth report that working had no effect on their decision to stay in college.

Question 4. Does location of work (on-campus versus off-campus) make a difference in academic performance or persistence?

We did not have a direct measure of this variable. The original assumption was that working in the State Work Study program was a proxy for working off-campus. The data reported for this variable in student records was incomplete. The crosstabulations show that students in State Work Study tend to have higher grade point averages than non-workers or students in College/Institutional Work Study. If the original assumption is correct, then working off-campus in the State Work Study program is correlated with increased grade point average.

Administrators do not believe that the location of work makes any difference in academic performance or persistence.

Question 5. Does working in a career-related field make a difference in academic performance or persistence?

The State Work Study regulations stipulate that, where possible, employment is to be related to the student's academic major or career area of interest. Since there is no corresponding rule governing the College/Institutional Work Study programs, we used this rule as a proxy for the career-related work variable. The crosstabulations show that students in the State Work Study program typically have a higher grade point average than their colleagues in College/Institutional Work Study at all levels of work and in all class years.

In the end, the analysis leads to the overall conclusions that there is no relationship between work and academic performance and only a slight negative relationship between work and progress toward a degree.

APPENDIX A

DATA ELEMENT DICTIONARY

WASHINGTON WORK STUDY PROJECT

DATA ELEMENT DICTIONARY

NOTE. An asterisk (*) preceding a variable definition identifies variables that remain constant for all semesters or quarters.

Section I. Data from Washington Higher Education Coordinating Board

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
1	SSAN	*Student's Social Security Number (SSAN)	N	9	1	9
2	AGE	*Age in years as of Fall 1983	N	2	10	11
3	SEX	*Student's Sex F = Female M = Male U = Unknown	A	1	12	12
4	RACE	*Student's Race A = Asian/Pacific-Islander B = Black H = Hispanic N = American/Alaskan Native W = White U = Unknown	A	1	13	13
5	INSTID	*Institutional Identifier, AY 1983 84	A	4	14	17
6	HSGPA	*High School Grade Point Average	N	3	18	20
7	HSRANK	*High School Rank in Class A = Top 25% B = Top 50% C = Lower 50% D = Lower 25% U = Unknown	A	1	21	21
8	INSTAT85	Institution Attended in 1984 85	A	4	22	25

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
9	YRSCH84	Year in School for AY 1983 84 1 = Freshman 2 = Sophomore 3 = Junior 4 = Senior 5 = Fifth Year G = Graduate P = Professional U = Unknown	A/N	1	26	26
10	FINSTA84	Financial Status for AY 1983-84 D = Dependent I = Independent U = Unknown	A	1	27	27
11	MARRY84	Marital Status for AY 1983-84 M = Married S = Single U = Unknown	A	1	28	28
12	DEPEND84	Number of Dependents for AY 1983-84	N	2	29	30
13	STDINC84	Student Income for AY 1983-84	N	5	31	35
14	PARINC84	Parent Income for AY 1983 84 (if student is dependent)	N	5	36	40
15	NEED84	Amount of financial need for AY 1983-84	N	5	41	45
16	GRANT84	Amount of grant dollars awarded for AY 1983-84	N	4	46	49
17	LOAN84	Amount of loan for AY 1983-84	N	4	50	53
18	CWS84	Amount of College Work Study awarded for for AY 1983-84	N	4	54	57
19	SWS84	Amount of State Work Study awarded for for AY 1983-84	N	4	58	61
20	IWS84	Amount of Institutional Work Study awarded for AY 1983 84	N	4	62	65

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
21	YRSCH85	Year in School for AY 1984-85 1 = Freshman 2 = Sophomore 3 = Junior 4 = Senior 5 = Fifth-Year G = Graduate P = Professional U = Unknown	A/N	1	66	66
22	FINSTA85	Financial Status for AY 1984-85 D = Dependent I = Independent U = Unknown	A	1	67	67
23	MARRY85	Marital Status for AY 1984-85 M = Married S = Single U = Unknown	A	1	68	68
24	DEPEND85	Number of Dependents for AY 1984-85	N	2	69	70
25	STDINC85	Student Income for AY 1984-85	N	5	71	75
26	PARINC85	Parent Income for AY 1984-85 (if student is dependent)	N	5	76	80
27	NEED85	Amount of financial need for AY 1984-85	N	5	81	85
28	GRANT85	Amount of grant dollars awarded for AY 1984-85	N	4	86	89
29	LOAN85	Amount of loan for AY 1984-85	N	4	90	93
30	CWS85	Amount of College Work Study awarded for for AY 1984-85	N	4	94	97
31	SWS85	Amount of State Work Study awarded for for AY 1984-85	N	4	98	101
32	IWS85	Amount of Institutional Work Study awarded for AY 1984-85	N	4	102	105
33	CUMGPAF3	Cumulative GPA Prior to Fall 1983	N	3	106	108
34	GPAF83	GPA, Fall Term 1983	N	3	109	111

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
35	TERMSF83	Total number of terms attended including Fall 1983	N	2	112	113
36	CWSPAYF3	Hourly rate of pay for CWS, Fall 1983	N	4	114	117
37	IWSPAYF3	Hourly rate of pay for IWS, Fall 1983	N	4	118	121
38	SWSPAYF3	Hourly rate of pay for SWS, Fall 1983	N	4	122	125
39	CWSLOCF3	Work Location for CWS, Fall 1983 ON = On-campus OFF = Off-campus	A	3	126	128
40	SWSLOCF3	Work Location for SWS, Fall 1983 ON = On-campus OFF = Off-campus	A	3	129	131
41	IWSLOCF3	Work Location for IWS, Fall 1983 ON = On-campus OFF = Off-campus	A	3	132	134
42	TCHF83	Total Credit Hours Earned Prior to Fall 1983	N	3	135	137
43	CHAF83	Credit Hours attempted, Fall 1983	N	3	138	140
44	CHEF83	Credit Hours earned, Fall 1983	N	3	141	143
45	CWSHRF83	Average hours worked on CWS, Fall 1983	N	2	144	145
46	SWSHRF83	Average hours worked on SWS, Fall 1983	N	2	146	147
47	IWSHRF83	Average hours worked on IWS, Fall 1983	N	2	148	149
48	STDSTF83	Student Status at the end of Fall 1983 C = Continuing G = Graduate T = Transfer D = Dropout U = Unknown	A	1	150	150
49	CUMGPAW4	Cumulative GPA Prior to Winter 1984	N	3	151	153
50	GPAW84	GPA, Winter Term 1984	N	3	154	156
51	CWSPAYW4	Hourly rate of pay for CWS, Winter 1984	N	4	157	160

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
52	IWSPAYW4	Hourly rate of pay for IWS, Winter 1984	N	4	161	164
53	SWSPAYW4	Hourly rate of pay for SWS, Winter 1984	N	4	165	168
54	TERMSW84	Total number of terms attended including Winter 1984	N	2	169	170
55	CWSLOCW4	Work Location for CWS, Winter 1984 ON = On-campus OFF = Off-campus	A	3	171	173
56	IWSLOCW4	Work Location for IWS, Winter 1984 ON = On-campus OFF = Off-campus	A	3	174	176
57	SWSLOCW4	Work Location for SWS, Winter 1984 ON = On-campus OFF Off campus	A	3	177	179
58	CWSHRW84	Average hours worked on CWS, Winter 1984	N	2	180	181
59	IWSHRW84	Average hours worked on IWS, Winter 1984	N	2	182	183
60	SWSHRW84	Average hours worked on SWS, Winter 1984	N	2	184	185
61	CHAW84	Credit Hours attempted, Winter 1984	N	3	186	188
62	CHEW84	Credit Hours earned, Winter 1984	N	3	189	191
63	STDSTW84	Student Status at the end of Winter 1984 C = Continuing G = Graduate T = Transfer D = Dropout U = Unknown	A	1	192	192
64	TCHW84	Total Credit Hours Earned Prior to Winter 1984	N	3	193	195
65	CUMGPAS4	Cumulative GPA Prior to Spring 1984	N	3	196	198
66	GPAS84	GPA, Spring Term 1984	N	3	199	201
67	CWSPAYS4	Hourly rate of pay for CWS, Spring 1984	N	4	202	205

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
68	IWSPAYS4	Hourly rate of pay for IWS, Spring 1984	N	4	206	209
69	SWSPAYS4	Hourly rate of pay for SWS, Spring 1984	N	4	210	213
70	TERMSS84	Total number of terms attended including Spring 1984	N	2	214	215
71	CWSLOCS4	Work Location for CWS, Spring 1984 ON = On-campus OFF = Off-campus	A	3	216	218
72	IWSLOCS4	Work Location for IWS, Spring 1984 ON = On-campus OFF = Off-campus	A	3	219	221
73	SWSLOCS4	Work Location for SWS, Spring 1984 ON = On-campus OFF Off-campus	A	3	222	224
74	CWSHRS84	Average hours worked on CWS, Spring 1984	N	2	225	226
75	IWSHRS84	Average hours worked on IWS, Spring 1984	N	2	227	228
76	SWSHRS84	Average hours worked on SWS, Spring 1984	N	2	229	230
77	CHAS84	Credit Hours attempted, Spring 1984	N	3	231	233
78	CHES84	Credit Hours earned, Spring 1984	N	3	234	236
79	STDSTS84	Student Status at the end of Spring 1984 C = Continuing G = Graduate T = Transfer D = Dropout U = Unknown	A	1	237	237
80	TCHS84	Total Credit Hours Earned Prior to Spring 1984	N	3	238	240
81	CUMGPAF4	Cumulative GPA Prior to Fall 1984	N	3	241	243
82	GPAF84	GPA, Fall Term 1984	N	3	244	246
83	CWSPAYF4	Hourly rate of pay for CWS, Fall 1984	N	4	247	250
84	IWSPAYF4	Hourly rate of pay for IWS, Fall 1984	N	4	251	254

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
85	SWSPAYF4	Hourly rate of pay for SWS, Fall 1984	N	4	255	258
86	TERMSI'84	Total number of terms attended including Fall 1984	N	2	259	260
87	CWSLOCF4	Work Location for CWS, Fall 1984 ON = On-campus OFF = Off-campus	A	3	261	263
88	IWSLOCF4	Work Location for IWS, Fall 1984 ON = On-campus OFF = Off-campus	A	3	261	266
89	SWSLOCF4	Work Location for SWS, Fall 1984 ON = On-campus OFF = Off-campus	A	3	267	269
90	CWSHRF84	Average hours worked on CWS, Fall 1984	N	2	270	271
91	IWSHRF84	Average hours worked on IWS, Fall 1984	N	2	272	273
92	SWSHRF84	Average hours worked on SWS, Fall 1984	N	2	274	275
93	CHAF84	Credit Hours attempted, Fall 1984	N	3	276	278
94	CHEF84	Credit Hours earned, Fall 1984	N	3	279	281
95	STDSTF84	Student Status at the end of Fall 1984 C = Continuing G = Graduate T = Transfer D = Dropout U = Unknown	A	1	282	282
96	TCHF84	Total Credit Hours Earned Prior to Fall 1984	N	3	283	285
97	CUMGPAW5	Cumulative GPA Prior to Winter 1985	N	3	286	288
98	GPAW85	GPA, Winter Term 1985	N	3	289	291
99	CWSPAYW5	Hourly rate of pay for CWS, Winter 1985	N	4	292	295
100	IWSPAYW5	Hourly rate of pay for IWS, Winter 1985	N	4	296	299
101	SWSPAYW5	Hourly rate of pay for SWS, Winter 1985	N	4	300	303

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
102	TERMSW85	Total number of terms attended including Winter 1985	N	2	304	305
103	CWSLOCW5	Work Location for CWS, Winter 1985 ON = On-campus OFF = Off-campus	A	3	306	308
104	IWSLOCW5	Work Location for IWS, Winter 1985 ON = On-campus OFF = Off-campus	A	3	309	311
105	SWSLOCW5	Work Location for SWS, Winter 1985 ON = On-campus OFF = Off-campus	A	3	312	314
106	CWSHRW85	Average hours worked on CWS, Winter 1985	N	2	315	316
107	IWSHRW85	Average hours worked on IWS, Winter 1985	N	2	317	318
108	SWSHRW85	Average hours worked on SWS, Winter 1985	N	2	319	320
109	CHAW85	Credit Hours attempted, Winter 1985	N	3	321	323
110	CHEW85	Credit Hours earned, Winter 1985	N	3	324	326
111	STDSTW85	Student Status at the end of Winter 1985 C = Continuing G = Graduate T = Transfer D = Dropout U = Unknown	A	1	327	327
112	TCHW85	Total Credit Hours Earned Prior to Winter 1985	N	3	328	330
113	CUMGPAS5	Cumulative GPA Prior to Spring 1985	N	3	331	333
114	GPAS85	GPA, Spring Term 1985	N	3	334	336
115	CWSPAYS5	Hourly rate of pay for CWS, Spring 1985	N	4	337	340
116	IWSPAYS5	Hourly rate of pay for IWS, Spring 1985	N	4	341	344
117	SWSPAYS5	Hourly rate of pay for SWS, Spring 1985	N	4	345	348

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
118	TERMSS85	Total number of terms attended including Spring 1985	N	2	349	350
119	CWSLOCS5	Work Location for CWS, Spring 1985 ON = On-campus OFF = Off-campus	A	3	351	353
120	IWSLOCS5	Work Location for IWS, Spring 1985 ON = On-campus OFF = Off-campus	A	3	354	356
121	SWSLOCS5	Work Location for SWS, Spring 1985 ON = On-campus OFF = Off-campus	A	3	357	359
122	CWSHRS85	Average hours worked on CWS, Spring 1985	N	2	360	361
123	IWSHRS85	Average hours worked on IWS, Spring 1985	N	2	362	363
124	SWSHRS85	Average hours worked on SWS, Spring 1985	N	2	364	365
125	CHAS85	Credit Hours attempted, Spring 1985	N	3	366	368
126	CHES85	Credit Hours earned, Spring 1985	N	3	369	371
127	STDSTS85	Student Status at the end of Spring 1985 C = Continuing G = Graduate T = Transfer D = Dropout U = Unknown	A	1	372	372
128	TCHS85	Total Credit Hours Earned Prior to Spring 1985	N	3	373	375

Section II. Data from Student Survey

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
129	SURVEYNO	Survey Number (same as SSAN)	N	13	376	388
130	*GOAL	Highest degree expected at time of entering college (Q1) 1 = none 2 = associate 3 = bachelor's 4 = master's 5 = doctoral or advanced pro.	N	1	389	389
131	*FATHERED	Father's education level (Q2a) 1 = did not finish high school 2 = high school graduate 3 = some college 4 = college graduate 5 = some graduate school 6 = graduate degree	N	1	390	390
132	*MOTHERED	Mother's education level (Q2b) 1 = did not finish high school 2 = high school graduate 3 = some college 4 = college graduate 5 = some graduate school 6 = graduate degree	N	1	391	391
133	*HSACAD	Student's high school academic performance (Q3) 1 = better than average 2 = average 3 = below average	N	1	392	392
		Student's high school work experience (Q4)				
134	*HSHRFR	a. Freshman year - hours per week	N	2	393	394
135	*WKWRKFR	- number of weeks	N	2	395	396
136	*HSHRSO	b. Sophomore year - hours per week	N	2	397	398
137	*WKWRKSO	- number of weeks	N	2	399	400
138	*HSHRJR	c. Junior year - hours per week	N	2	401	402
139	*WKWRKJR	- number of weeks	N	2	403	404
140	*HSHRSR	d. Senior year - hours per week	N	2	405	406
141	*WKWRKSR	- number of weeks	N	2	407	408

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
142	*FINCONC	Financial concern with ability to pay (Q5) 1 = no concern 2 = some concern 3 = major concern	N	1	409	409
		Type of housing occupied while enrolled (Q6) (for semester students only)				
143	DORMSF83	a. Fall 1983	N	1	410	410
144	DORMSS84	b. Spring 1984	N	1	411	411
145	DORMSF84	c. Fall 1984	N	1	412	412
146	DORMSS85	d. Spring 1985	N	1	413	413
		1 = Parent's home 2 = On-campus 3 = Off-campus 4 = Not enrolled this term				
		Type of housing occupied while enrolled (Q7) (for quarter students only)				
147	DORMQF83	a. Fall 1983	N	1	414	414
148	DORMQW84	b. Winter 1984	N	1	415	415
149	DORMQS84	c. Spring 1984	N	1	416	416
150	DORMQF84	d. Fall 1984	N	1	417	417
151	DORMQW85	e. Winter 1984	N	1	418	418
152	DORMQS85	f. Spring 1985	N	1	419	419
		1 = Parent's home 2 = On-campus 3 = Off-campus 4 = Not enrolled this term				
153	*WORK	Did the student work part-time while enrolled during the period 1983-85? (Q8) 1 = No 2 = Yes	N	1	420	420
154	*EFFECT	Did working part-time have any effect on your academic performance while in college? (Q9) 1 = No 2 = Yes, working improved my performance 3 = Yes, working hurt my performance	N	1	421	421

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
		Did working part-time have any effect on your decision to continue in college? (Q10)				
155	*NOEFFECT	a. 1 = No	N	1	422	422
156	*YESBILLS	b. 1 = Yes, working enabled me to pay bills	N	1	423	423
157	*YESPART	c. 1 = Yes, working made me feel part of the college	N	1	424	424
158	*YESJOB	d. 1 = Yes, working would help me get a better job	N	1	425	425
159	*YESFTJOB	e. 1 = Yes, working led to a full-time job before completing my degree	N	1	426	426
		Did working part-time slow down your progress toward a degree? (Q11a)				
160	*NOSLOW	1. 1 = No	N	1	427	427
161	*YESSLOW	2. 1 = Yes	N	1	428	428
162	*AMTSLOW	If yes to SLOW, how many more terms did it take to complete your degree? (Q11b) 1 = one term 2 = two terms 3 = three terms 4 = four terms 5 = five or more terms	N	1	429	429
		Work experience outside of work study jobs (Q12) (Semester students only)				
		NOTE. Five column answers are of the form NN.NN				
		Fall 1983				
		Job #1				
163	F830WS11	Hours worked per week	N	5	430	434
164	F830WS12	Hourly rate of pay	N	5	435	439
165	F830WS13	Did not work	N	1	440	440
		Job #2				
166	F830WS21	Hours worked per week	N	5	441	445
167	F830WS22	Hourly rate of pay	N	5	446	450
168	F830WS23	Did not work	N	1	451	451
		Job #3				
169	F830WS31	Hours worked per week	N	5	452	456
170	F830WS32	Hourly rate of pay	N	5	457	461
171	F830WS33	Did not work	N	1	462	462

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
		Spring 1984				
		Job #1				
172	S840WS11	Hours worked per week	N	5	463	467
173	S840WS12	Hourly rate of pay	N	5	468	472
174	S840WS13	Did not work	N	1	473	473
		Job #2				
175	S840WS21	Hours worked per week	N	5	471	478
176	S840WS22	Hourly rate of pay	N	5	479	483
177	S840WS23	Did not work	N	1	481	484
		Job #3				
178	S840WS31	Hours worked per week	N	5	485	489
179	S840WS32	Hourly rate of pay	N	5	490	494
180	S840WS33	Did not work	N	1	495	495
		Fall 1984				
		Job #1				
181	F840WS11	Hours worked per week	N	5	496	500
182	F840WS12	Hourly rate of pay	N	5	501	505
183	F840WS13	Did not work	N	1	506	506
		Job #2				
184	F840WS21	Hours worked per week	N	5	507	511
185	F840WS22	Hourly rate of pay	N	5	512	516
186	F840WS23	Did not work	N	1	517	517
		Job #3				
187	F840WS31	Hours worked per week	N	5	518	522
188	F840WS32	Hourly rate of pay	N	5	523	527
189	F840WS33	Did not work	N	1	528	528
		Spring 1985				
		Job #1				
190	S850WS11	Hours worked per week	N	5	529	533
191	S850WS12	Hourly rate of pay	N	5	534	538
192	S850WS13	Did not work	N	1	539	539
		Job #2				
193	S850WS21	Hours worked per week	N	5	540	544
194	S850WS22	Hourly rate of pay	N	5	545	549
195	S850WS23	Did not work	N	1	550	550
		Job #3				
196	S850WS31	Hours worked per week	N	5	551	555
197	S850WS32	Hourly rate of pay	N	5	556	560
198	S850WS33	Did not work	N	1	561	561

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
		Work experience outside of work study jobs (Q13) (Quarter students only)				
		NOTE. Five column answers are of the form NN.NN				
		Fall 1983				
		Job #1				
199	F830WQ11	Hours worked per week	N	5	562	566
200	F830WQ12	Hourly rate of pay	N	5	567	571
201	F830WQ13	Did not work	N	1	572	572
		Job #2				
202	F830WQ21	Hours worked per week	N	5	573	577
203	F830WQ22	Hourly rate of pay	N	5	578	582
204	F830WQ23	Did not work	N	1	583	583
		Job #3				
205	F830WQ31	Hours worked per week	N	5	584	589
206	F830WQ32	Hourly rate of pay	N	5	590	594
207	F830WQ33	Did not work	N	1	595	595
		Winter 1984				
		Job #1				
208	W840WQ11	Hours worked per week	N	5	596	600
209	W840WQ12	Hourly rate of pay	N	5	601	605
210	W840WQ13	Did not work	N	1	606	606
		Job #2				
211	W840WQ21	Hours worked per week	N	5	607	611
212	W840WQ22	Hourly rate of pay	N	5	612	616
213	W840WQ23	Did not work	N	1	617	617
		Job #3				
214	W840WQ31	Hours worked per week	N	5	618	622
215	W840WQ32	Hourly rate of pay	N	5	623	627
216	W840WQ33	Did not work	N	1	628	628
		Spring 1984				
		Job #1				
217	S840WQ11	Hours worked per week	N	5	629	633
218	S840WQ12	Hourly rate of pay	N	5	634	638
219	S840WQ13	Did not work	N	1	639	639
		Job #2				
220	S840WQ21	Hours worked per week	N	5	640	644
221	S840WQ22	Hourly rate of pay	N	5	645	649
222	S840WQ23	Did not work	N	1	650	650
		Job #3				
223	S840WQ31	Hours worked per week	N	5	651	655
224	S840WQ32	Hourly rate of pay	N	5	656	660
225	S840WQ33	Did not work	N	1	661	661

Field No.	Variable Name	Variable Definition	Alpha/ Num	Length	Start Column	End Column
		Fall 1984				
		Job #1				
226	F840WQ11	Hours worked per week	N	5	662	666
227	F840WQ12	Hourly rate of pay	N	5	667	671
228	F840WQ13	Did not work	N	1	672	672
		Job #2				
229	F840WQ21	Hours worked per week	N	5	673	677
230	F840WQ22	Hourly rate of pay	N	5	678	682
231	F840WQ23	Did not work	N	1	683	683
		Job #3				
232	F840WQ31	Hours worked per week	N	5	681	688
233	F840WQ32	Hourly rate of pay	N	5	689	693
234	F840WQ33	Did not work	N	1	694	694
		Winter 1985				
		Job #1				
235	W850WQ11	Hours worked per week	N	5	695	699
236	W850WQ12	Hourly rate of pay	N	5	700	704
237	W850WQ13	Did not work	N	1	705	705
		Job #2				
238	W850WQ21	Hours worked per week	N	5	706	710
239	W850WQ22	Hourly rate of pay	N	5	711	715
240	W850WQ23	Did not work	N	1	716	716
		Job #3				
241	W850WQ31	Hours worked per week	N	5	717	721
242	W850WQ32	Hourly rate of pay	N	5	722	726
243	W850WQ33	Did not work	N	1	727	727
		Spring 1985				
		Job #1				
244	S850WQ11	Hours worked per week	N	5	728	732
245	S850WQ12	Hourly rate of pay	N	5	733	737
246	S850WQ13	Did not work	N	1	738	738
		Job #2				
247	S850WQ21	Hours worked per week	N	5	739	743
248	S850WQ22	Hourly rate of pay	N	5	744	748
249	S850WQ23	Did not work	N	1	749	749
		Job #3				
250	S850WQ31	Hours worked per week	N	5	750	754
251	S850WQ32	Hourly rate of pay	N	5	755	759
252	S850WQ33	Did not work	N	1	760	760

APPENDIX B

COPY OF SURVEY OF CAMPUS ADMINISTRATORS

Survey Number _____ August 1986

SURVEY OF THE EFFECT OF STUDENT EMPLOYMENT ON ACADEMIC PERFORMANCE AND RETENTION AMONG STUDENTS AT WASHINGTON COLLEGES AND UNIVERSITIES

Instructions. When answering the questions below, please keep in mind that the population under study is full-time undergraduate students who work part-time while enrolled and that your responses should be based on your judgments about students attending your college or university during academic years 1983-84 and 1984-85. Specific instructions for answering each question are provided with that question as necessary. Please use the pre-addressed, stamped envelope to return your completed survey to AVA.

****

SECTION ONE. THE IMPACT OF WORKING ON ACADEMIC PERFORMANCE

Question 1. Would you say that, in general, students who work part-time (20 or fewer hours per week) perform better academically than, the same as, or worse than students who do not work? (Check one)

____ better than
____ the same as
____ worse than

Question 2. For students who work part-time, is there a correlation between the number of hours worked and academic performance? (Check one)

____ Yes, students who work more (15-20 hours/week) tend to do worse academically than students who work less (under 10 hours/week)
____ Yes, students who work more tend to do better academically than students who work less
____ No, there is no connection between the number of hours worked and academic performance

Question 3. Are there any differences in academic performance between students who work on-campus and those who work off-campus? (Check one)

____ Yes, students who work on-campus tend to perform better academically than students who work off-campus
____ Yes, students who work off-campus tend to perform better academically than students who work on-campus
____ No, there are no differences caused by the location of the work

Question 4. The State Work Study program requires that students work in jobs related to their academic or career area of interest. Do students in these jobs perform academically better than, the same as, or worse than students whose jobs are not academically or career related?

____ better than
____ the same as
____ worse than

Question 5. The effect of student employment on academic performance may be influenced by the characteristics of the student. From the list below, check those characteristics that you believe to be positively, negatively or not related to the working student's academic performance. For example, if you believe that students over age 30 tend to perform better academically if they do not work, then check "Negatively Related".

	Relation to Academic Performance		
	Positively Related	Negatively Related	Not Related
Age			
- under 23	____	____	____
- 23-30	____	____	____
- over 30	____	____	____
Sex			
- Male	____	____	____
- Female	____	____	____
Race			
- Black	____	____	____
- Caucasian	____	____	____
- Hispanic	____	____	____
- Asian	____	____	____

(this question continues on the next page)

Question 5 Continued

	Relation to Academic Performance		
	Positively Related	Negatively Related	Not Related
Marital Status			
- single without dependents	____	____	____
- single with dependents	____	____	____
- married	____	____	____
Financial Status			
- dependent	____	____	____
- independent	____	____	____
Year in College			
- Freshman	____	____	____
- Sophomore	____	____	____
- Junior	____	____	____
- Senior	____	____	____
Prior Academic Performance			
- High GPA (greater than 3.3)	____	____	____
- Average GPA (2.5-3.3)	____	____	____
- Low GPA (less than 2.5)	____	____	____

Question 6. The characteristics of working students (listed in the previous question) are likely to work in combination to influence a student's academic performance. Which sets of factors seem to have the greatest positive or negative impact on academic performance? For example, single women over 30 without dependents may perform very well academically.

a. Combinations of factors that positively effect the academic performance of working students.

b. Combinations of factors that negatively effect the academic performance of working students.

SECTION TWO. THE IMPACT OF WORKING ON RETENTION

Question 7. In general, what effect does working part-time have on a student's retention? (Check one)

____ strong positive effect (much more likely to remain enrolled)
____ generally positive effect (more likely to remain enrolled)
____ generally negative effect (less likely to remain enrolled)
____ strong negative effect (much less likely to remain enrolled)
____ no effect (working and retention are not related)

Question 8. Do working students typically have a higher degree completion rate than non-working students?

____ Yes
____ No

Question 9. Does working in a career or academically related job tend to improve a student's chances of degree completion?

____ Yes
____ No

Question 10. In terms of retention, does it matter if a student works part-time on or off-campus? (Check one)

____ Students working part-time on-campus are more likely to remain enrolled than students working off-campus
____ Students working part-time off-campus are more likely to remain enrolled than students working on-campus
____ Work location makes no difference in retention

Question 11. Is there a trend over the last ten years for students in general (working as well as non-working students) to take longer to complete their undergraduate degrees?

____ Yes
____ No

Question 11. If you answered yes to Question 11, how significant a factor is part-time work in this trend?

____ Very significant
____ Significant
____ Somewhat significant
____ Not significant

Question 12. From the list below, check those characteristics that are positively, negatively, or not related to retention of the student working part-time.

	Relation to Retention		
	Positively Related	Negatively Related	Not Related
Age			
- under 23	____	____	____
- 23-30	____	____	____
- over 30	____	____	____
Sex			
- Male	____	____	____
- Female	____	____	____
Race			
- Black	____	____	____
- Caucasian	____	____	____
- Hispanic	____	____	____
- Asian	____	____	____
Marital Status			
- single without dependents	____	____	____
- single with dependents	____	____	____
- married	____	____	____
Financial Status			
- dependent	____	____	____
- independent	____	____	____
Year in College			
- Freshman	____	____	____
- Sophomore	____	____	____
- Junior	____	____	____
- Senior	____	____	____
Prior Academic Performance			
- High GPA (greater than 3.3)	____	____	____
- Average GPA (2.5-3.3)	____	____	____
- Low GPA (less than 2.5)	____	____	____

Question 13. The characteristics of working students (listed on the previous page) are likely to work in combination to influence retention. Which sets of factors seem to have the greatest positive or negative impact on retention?

a. Combinations of factors that positively effect the retention of working students.

b. Combinations of factors that negatively effect the retention of working students.

Comments. On a separate sheet of paper, please feel free to elaborate on any of your responses to the above questions.

Concluding Request. If your campus has done studies of the impact of working on academic performance and retention we would appreciate receiving a copy of the results.

PLEASE RETURN YOUR COMPLETED SURVEY TO: (a stamped, pre-addressed envelope has been included for your convenience)

Dr. Gordon Van de Water
Augenblick, Van de Water & Associates
1370 Pennsylvania St., Suite 220
Denver, Colorado 80203

APPENDIX C

COPY OF STUDENT SURVEY

August 1986

Survey Number _____

SURVEY OF THE EFFECT OF STUDENT EMPLOYMENT ON ACADEMIC PERFORMANCE AND RETENTION IN COLLEGE

You have been selected to respond to this survey because you received financial aid to attend college sometime during academic years 1983-84 and 1984-85. The information requested will help us improve the financial aid system. The thirteen questions should take less than ten minutes to answer. Please use the enclosed pre-addressed, stamped envelope to return your completed survey to:

Higher Education Coordinating Board
ATTN: Shirley Ort
908 East Fifth Avenue
Olympia, WA 98504

Your responses will be kept confidential and will not be attributed to you.

Instructions. Please answer all of the questions below based on your own experience while attending college from the Fall of 1983 through the Spring of 1985. Disregard the numbers and letters assigned to each response. These are to aid the key entry of your answers.

****

Question 1. When you entered college, what was the highest degree you expected to earn at any college?

1 ____ none
2 ____ associate (A.A. or equivalent)
3 ____ bachelor's (B.A., B.S., etc.)
4 ____ master's (M.A., M.S., etc.)
5 ____ doctoral or advanced professional degree

Question 2. What is the highest level of formal education obtained by your parents? (Mark one in each column)

	a. Father	b. Mother
Did not finish high school	1 ____	1 ____
High school graduate	2 ____	2 ____
Some college	3 ____	3 ____
College graduate	4 ____	4 ____
Some graduate school	5 ____	5 ____
Graduate degree	6 ____	6 ____

Question 3. When you were in high school, what kind of student were you?

1 ____ better than average academically
2 ____ average academically
3 ____ below average academically

Question 4. If you worked during the school year while in high school, approximately how many hours per week and how many weeks per year did you work each year? Do not include work during the summers. Use zeros to indicate those times when you did not work; do not leave any blanks.

a. Freshman year: (1) ____ hours per week for (2)____ weeks
b. Sophomore year: (1) ____ hours per week for (2)____ weeks
c. Junior year: (1) ____ hours per week for (2)____ weeks
d. Senior year: (1) ____ hours per week for (2)____ weeks

Question 5. During 1983 to 1985, were you concerned about your ability to finance your college education (after you knew how much financial aid you would receive)?

1 ____ No, I knew I had sufficient funds
2 ____ Yes, I had some concern but felt I could make it
3 ____ Yes, finances were a major concern

Question 6. THIS QUESTION IS FOR STUDENTS WHO ATTENDED A COLLEGE WITH A SEMESTER SYSTEM. IF YOUR COLLEGE USES A QUARTER SYSTEM, SKIP TO QUESTION 7.

Where did you live during each of the following terms that you were enrolled in college?

Term	Type of Housing			I was not enrolled during this term
	Parents' Home	On-campus	Off-campus	
a. Fall 1983	1 ____	2 ____	3 ____	4 ____
b. Spring 1984	1 ____	2 ____	3 ____	4 ____
c. Fall 1984	1 ____	2 ____	3 ____	4 ____
d. Spring 1985	1 ____	2 ____	3 ____	4 ____

Question 7. THIS QUESTION IS FOR STUDENTS WHO ATTENDED A COLLEGE WITH A QUARTER SYSTEM. IF YOUR COLLEGE USES A SEMESTER SYSTEM, SKIP THIS QUESTION (students enrolled at a college with a semester system should answer Question 6).

Where did you live during each of the following terms that you were enrolled in college?

Term	Type of Housing			I was not enrolled during this term
	Parents' Home	On-campus	Off-campus	
a. Fall 1983	1 ____	2 ____	3 ____	4 ____
b. Winter 1984	1 ____	2 ____	3 ____	4 ____
c. Spring 1984	1 ____	2 ____	3 ____	4 ____
d. Fall 1984	1 ____	2 ____	3 ____	4 ____
e. Winter 1985	1 ____	2 ____	3 ____	4 ____
f. Spring 1985	1 ____	2 ____	3 ____	4 ____

Question 8. While in college during the period 1983-1985, did you work part-time at any time during the academic year (do not include summer work)?

1 ____ No, I never worked during the academic year

IF YOU CHECKED THIS ANSWER, STOP. YOU DO NOT NEED TO ANSWER THE REMAINING QUESTIONS.

2 ____ Yes, I worked during the academic year during this period

IF YOU CHECKED THIS ANSWER, PLEASE CONTINUE WITH THE REMAINING QUESTIONS.

Question 9. Did working part-time have any effect on your academic performance while in college?

1 ____ No, working part-time did not affect my studies
2 ____ Yes, working part-time improved my academic performance
3 ____ Yes, working part-time hurt my academic performance

Question 10. Did working part-time have any effect on your decision to continue in college? (check as many as apply)

a ____ No, working had no effect on my decision to stay in college
b ____ Yes, working enabled me to pay my college bills
c ____ Yes, working made me feel more a part of the college
d ____ Yes, I thought the work experience, combined with my degree, would enable me to get a better job after I finished college
e ____ Yes, my part-time working experience led to a permanent full-time job so I dropped out of school without completing my degree

Question 11. During academic years 1983-84 and 1984-85, did working part-time force you to slow down your progress toward a degree?

a1 ____ No, working part-time did not force me to slow down my progress toward a degree
a2 ____ Yes, because I worked part-time, my progress toward a degree was lengthened by (check one)

b1 ____ one term
b2 ____ two terms
b3 ____ three terms
b4 ____ four terms
b5 ____ five or more terms

Instructions for Questions 12 and 13. Many college students find jobs on their own while enrolled (that is, jobs other than those sponsored by the financial aid office). If you held a job of this type, please complete the appropriate table below by indicating the average number of hours worked per week and the hourly rate of pay. Do not include jobs held as part of your financial aid package. If you held more than one job during a term be sure to indicate that on the table.

12. IF YOUR COLLEGE WAS ON A SEMESTER SYSTEM, USE THE TABLE BELOW FOR YOUR RESPONSE. (If your college was on a quarter system, use the table in question 13 for your response)

	Hours Worked Per Week	Hourly Rate of Pay	I did not Have Work of This Type This Term
Fall 1983			
a. Job #1	1 ____	2 ____	3 ____
b. Job #2	1 ____	2 ____	3 ____
c. Job #3	1 ____	2 ____	3 ____
Spring 1984			
d. Job #1	1 ____	2 ____	3 ____
e. Job #2	1 ____	2 ____	3 ____
f. Job #3	1 ____	2 ____	3 ____
Fall 1984			
g. Job #1	1 ____	2 ____	3 ____
h. Job #2	1 ____	2 ____	3 ____
i. Job #3	1 ____	2 ____	3 ____
Spring 1985			
j. Job #1	1 ____	2 ____	3 ____
k. Job #2	1 ____	2 ____	3 ____
l. Job #3	1 ____	2 ____	3 ____

13. IF YOUR COLLEGE WAS ON A QUARTER SYSTEM, USE THE TABLE BELOW FOR YOUR RESPONSE. (If your college was on a semester system, use the table in question 12 for your response)

TABLE B

	Hours Worked Per Week	Hourly Rate of Pay	I did not Have Work of This Type This Term
Fall 1983			
a. Job #1	1 ____	2 ____	3 ____
b. Job #2	1 ____	2 ____	3 ____
c. Job #3	1 ____	2 ____	3 ____
Winter 1984			
d. Job #1	1 ____	2 ____	3 ____
e. Job #2	1 ____	2 ____	3 ____
f. Job #3	1 ____	2 ____	3 ____
Spring 1984			
g. Job #1	1 ____	2 ____	3 ____
h. Job #2	1 ____	2 ____	3 ____
i. Job #3	1 ____	2 ____	3 ____
Fall 1984			
j. Job #1	1 ____	2 ____	3 ____
k. Job #2	1 ____	2 ____	3 ____
l. Job #3	1 ____	2 ____	3 ____
Winter 1985			
m. Job #1	1 ____	2 ____	3 ____
n. Job #2	1 ____	2 ____	3 ____
o. Job #3	1 ____	2 ____	3 ____
Spring 1985			
p. Job #1	1 ____	2 ____	3 ____
q. Job #2	1 ____	2 ____	3 ____
r. Job #3	1 ____	2 ____	3 ____

THANK YOU FOR YOUR ASSISTANCE. PLEASE RETURN YOUR COMPLETED SURVEY TO THE HIGHER EDUCATION COORDINATING BOARD IN THE ENVELOPE PROVIDED.

AVA EDUCATION POLICY/PLANNING SERVICES

WORKING WHILE STUDYING: DOES IT MATTER?

An Examination of the Washington Work Study Program

CONDENSED REPORT*

Prepared by

AUGENBLICK, VAN DE WATER & ASSOCIATES

May 1987

HE 020 924

* A copy of the full report may be obtained from the Washington Higher Education Coordinating Board, 908 East Fifth Avenue, Olympia, WA 98504.

Augenblick, Van de Water & Associates, Inc.
1370 Pennsylvania Street, Suite 220 • Denver, CO 80203 (303) 832-3444

AVA EDUCATION POLICY/PLANNING SERVICES
1370 Pennsylvania St., Suite 220
Denver, CO 80203

LETTER OF TRANSMITTAL

May 15, 1987

Ms. Shirley A. Ort
Associate Director
Washington State Higher Education
Coordinating Board
908 East Fifth Avenue
Olympia, Washington 98504

Dear Ms. Ort:

It is a pleasure to transmit to you our condensed report on the effect of working on academic performance and persistence among full-time undergraduate students in Washington's public and private colleges and universities. We believe you will find this condensed version useful in communicating the results of the full report to policy makers and educational leaders in Washington.

While this is our report, it would not have been possible without the cooperation of the many educators and students in Washington State who took time from their busy lives to provide us with the information needed to analyze the relationships between working and studying. We deeply appreciate their willingness to cooperate in this important study.

Sincerely,

Gordon Van de Water

Gordon Van de Water

John Augenblick

ACKNOWLEDGEMENTS

The preparation of this report would not have been possible without the involvement of many people. We particularly appreciate the advice and guidance of Shirley Ort, Marilyn Sjolund, and Tom Jons at the Washington State Higher Education Coordinating Board. Their unflagging diligence during the extended data collection effort contributed significantly to the quality of the data that were provided to us. We are especially thankful to the many campus personnel whose dedication and commitment to students pushed them to cooperate in this study in every possible way - from preparing mailing labels for surveys to checking data records over a two year period. The quality and accuracy of this effort rests on their good work. And we are grateful to the students who participated in our mail survey for sharing their perspectives with us knowing that the benefits of their responses will accrue to students of the next generation rather than themselves.

In conducting the data analysis, we were greatly aided by the statistical expertise of Donald Searls, Professor of Applied Statistics at the University of Northern Colorado and Peter Intarapanich, a doctoral student in applied statistics. Their intimate familiarity with statistical procedures and interpretation saved us considerable agony. The thoughtful review of the draft report by Scott Miller, a leading researcher in student financial aid, greatly enhanced the clarity and organization of the final report. Finally, Mary Flanigan, AVA policy analyst, provided excellent assistance in the preparation and analysis of the campus administrator and student surveys and the organization of the data base.

This report reflects our best efforts to understand and report on the relationship between working and studying for full-time undergraduate students in Washington's public and private colleges and universities. We are solely responsible for any factual errors or inconsistencies contained in the report.

Gordon Van de Water
John Augenblick

May 1987

WORKING WHILE STUDYING: DOES IT MATTER?

Highlights

The fundamental conclusion of the report is that work has no impact on the academic performance and very little impact on the academic progress of full-time undergraduate students in Washington's colleges and universities. Neither the number of hours worked nor the rate of pay has a strong impact on a student's grade point average, number of credit hours attempted, or the ratio of credits earned to credits attempted. For persistence, the working student, on average, will take slightly longer to complete college than the non-worker. Our estimate is that the additional time will be about one-third of an academic term. These findings are consistent with other research studies on the relationship between working and studying.

Other highlights include:

- The best predictor of college grade point average is high school grade point average
- The longer a student is enrolled, the higher the grade point average, regardless of work experience while enrolled
- Older students perform better academically than younger students
- Independent students perform better academically than dependent students
- Working in the State Work Study program is positively correlated with grade point average
- State Work Study students generally have higher grade point averages than College Work Study students or non-workers
- Students with high financial need do better when working in the State Work Study program
- Students who work have a higher course completion rate than non-workers
- Campus administrators generally believe that part-time workers do better academically than non-workers and are more likely to persist
- Almost half of the students responding to the mail survey felt that working hurt their academic performance, a belief that is not substantiated by the data in this study

TABLE OF CONTENTS

Letter of Transmittal i

Acknowledgements ii

Highlights iii

Introduction 1

Purpose of the Study 1

The Washington Work Study Program 2

Review of Research on the Impact of Working on Academic Performance and Persistence 2

The Study Design 4

Student Record Data 4

Drawing the Sample 4
Data Preparation 5

Results of the Study 5

Overview of Data 7
Results of Regression Analyses 10
Summary of Crosstabulation Analysis 12

Results of the Survey of Washington Campus Administrators 12

Academic Performance 13
Persistence 14

Student Survey Results 15

Summary and Conclusions 18

WORKING WHILE STUDYING: DOES IT MATTER?

An Examination of the Washington State Work Study Program

Introduction

Educators, parents, students and policy makers are becoming increasingly concerned about how families will meet the climbing costs of college. College cost increases in recent years, averaging nearly ten percent per year and nearly double the rate of inflation, threaten to restrict educational opportunity. Grant and loan programs are not keeping pace with cost increases, thus putting added pressure on families and students to provide a greater share of overall costs. In this climate, working while studying is becoming more commonplace and enjoys widespread support from policy makers.

Purpose of the Study

The purpose of this study is to examine the impact of working on the academic performance and persistence of a sample of full-time undergraduate students enrolled in Washington's public and private colleges and universities during the period from Fall 1983 through Spring 1985. The study focuses on the following questions:

(1) Do students who are employed part-time perform as well academically as those who are not employed?

(2) Is there a relationship between number of hours worked and academic performance?

(3) What impact does working part-time have on student persistence?

(4) Does location of work (on-campus versus off-campus) make a difference in academic performance or persistence?

(5) Does working in a career-related field make a difference in academic performance or persistence?

The Washington State Work Study Program

The Washington Work Study Program is the largest state sponsored work study program in the nation and the second oldest (behind Colorado).

The Washington Work Study Program was begun in 1974

> . . .to provide financial assistance to needy students attending eligible post-secondary institutions in the state of Washington by stimulating and promoting their employment, thereby enabling them to pursue courses of study at such institutions. An additional purpose of this program shall be to provide such needy students, wherever possible, with employment related to their academic interests.[1]

Students are eligible to participate in the program if they are Washington residents who demonstrate financial need, are enrolled at least half-time in an eligible institution, are deemed capable of maintaining good academic standing, and are not pursuing a degree in theology.

Summary of Research on the Impact of Working on Academic Performance and Persistence

Literature on the impact of work on student performance and retention is relatively scarce. The available literature tends to support the conclusion that part-time employment does not have an adverse impact on a student's grade point average, even if the student is on academic probation.[2] Too much work,

---

[1]Chapter 28B.12, section 28B.12.020, laws of Washington.

[2]See: Jerry Augsburger, "An Analysis of Academic Performance of Working and Non-Working Students on Probation at Northern Illinois University", The Journal of Student Financial Aid, Vol. 4, No. 2, June 1974; Judith F. Hammes and Emil J. Haller, "Making Ends Meet: Some of the Consequences of Part-Time Work for College Students", Journal of College Student Personnel, November 1983, pp. 529-534; J.B. Henry, "Part-Time Employment and Academic Performance," Journal of College Student Personnel, 1967, 8(4), 257-260; Albert B. Hood and Cheryl K. Maplethorpe, "Bestow, Lend, or Employ: What Difference Does it Make?" New Directions for Institutional Research, 1980, Vol. 7, No. 1, 61-73.

however, does seem to have an adverse impact on student performance.[3] As Martin concludes,

> On-campus employment during a student's freshman year in particular seems to enhance the student's chances of completing school. Several additional studies show that student employment does not have a negative impact on a student's grade point average, provided that such work does not exceed twenty hours per week.[4]

Other studies focusing on retention or persistence generally conclude that some work increases the chances of a student persisting through a degree.[5] One study states that "available research supports that the retention and success of students are linked to 'meaningful involvements' while in school. Work experiences rank as one of the most common and productive involvements for all college students."[6]

---

[3]See: Herta Teitelbaum, "Factors Affecting the Underachievement of Academically Able College Students," unpublished paper, October 1983 and Alexander Astin, Preventing Students from Dropping Out, San Francisco: Jossey-Bass, 1975.

[4]A. Dallas Martin, Jr., "Financial Aid", Chapter 11 in Increasing Student Retention: Effective Programs and Practices for Reducing the Dropout Rate, Lee Noel, Randi Levitz, Diana Saluri and Associates, San Francisco: Jossey-Bass, 1985, p. 206.

[5]See: Richard A. Voorhees, "Financial Aid and Persistence: Do Federal Campus-Based Aid Programs Make a Difference?", The Journal of Student Financial Aid, Vol 15, No. 1, Winter 1985, pp. 21-30; Dawn G. Terkla, "Does Financial Aid Enhance Undergraduate Persistence?, The Journal of Student Financial Aid, Vol. 15, No. 3, Fall 1985, pp. 11-18; Tullisse A. Murdock, "The Effect of Financial Aid on Student Persistence", paper given at the Association for the Study of Higher Education Annual Meeting, San Diego, February 1987.

[6]John R. Bazin and George Brooks, "The Work Experience Program - A Collaborative Effort Between Financial Aids and the Career Planning and Placement Center", The Journal of Student Financial Aid, Vol. 4, No. 3, November 1974, 25-29.

The Study Design

The study design includes three parts: a sample of institutional student records for students on State Work Study, College Work Study, and non-working financial aid recipients; a survey of campus administrators; and a survey of the students selected into the sample.

Student Record Data

Obtaining student records involved drawing a stratified random sample of financial aid recipients from a sample of colleges and universities in Washington state. The twelve institutions included in the study are:

College/University

University of Washington
Washington State University
Eastern Washington University
Western Washington University

Lower Columbia Community College
North Seattle Community College
Spokane Community College
Spokane Falls Community College

Pacific Lutheran University
Seattle University
University of Puget Sound
Whitworth College

Drawing the Sample. The population to be sampled was all Fall 1983 full-time undergraduate financial aid recipients at the 12 participating institutions. The original data set, before editing, contained the following number of cases for each group:

a) Students receiving a State Work Study award:	1,001
b) Students receiving a College Work Study or Institutional Work Study award:	1,342
c) Students receiving financial aid but not working:	1,265
TOTAL	3,608

Data Preparation. The data set was edited to remove reporting and keypunch errors and to insure that values were in appropriate ranges. This effort resulted in 424 cases (12%) being eliminated from the file. The analysis tape subsequently contained 3,184 cases suitable for analysis.

Results of the Study

The issues of interest to this study relate to working. However, we discovered that many students who receive an annual work study award do not actually work in every academic term during the year of the award, therefore, we re-sorted the cases into three groups based on whether or not each student actually worked during each term. Students are classified as work study students only for those academic terms in which they actually worked. Using this procedure, the observations were re-sorted according to the following rules:

Group One: State Work Study Only. Students who worked only under the State Work Study program are assigned to Group One only for those academic terms in which they actually worked.

Group Two: College Work Study or Institutional Work Study. Students who worked in either College Work Study or were employed by the institution (through the financial aid office) are assigned to Group Two only for those academic terms in which they actually worked.

Group Three: Non-workers. Students who did not work during a given academic term, even though they may have received a work study award, are assigned to Group Three for that term. Similarly, students who received financial aid (either grant or loan) but did not work under any work study program are assigned to Group Three for every term.

In this way a student's assignment to a group varies with each academic term depending on whether or not the student worked during that term. All other characteristics of the student, e.g, grade point average, credit hours attempted, credit hours earned, and demographic characteristics, also moved with the student, changing by term where appropriate. For each semester student, therefore, there are a maximum of four separate data records representing the four semesters covered in the study. For each quarter student there are a maximum of six separate data records representing the six quarters covered in the study. Numerous students will have less than the maximum possible number of data observations because they graduated, transferred, or dropped out during the period under study. In addition, because we focused on full-time students, students who entered the sample as full-time students but later dropped to part-time status were eliminated from the analysis for any academic term in which they were enrolled part-time.[7]

Because students who received a work study award frequently did not work in each of the academic terms during the year of the award, the distribution of cases by group changed significantly. Using the approach described above, the 3,184 cases on the analysis tape represented 11,671 valid data observations that were distributed into the three groups as follows:

---

[7]This decision was made after the regression results for all students (including part-time enrollees) showed that part-time students made no statistically significant differences in the regression results.

	Number of Observations	Percent
Group One (worked in State Work Study) -	2,154	18.5%
Group Two (worked in CWS or IWS) -	2,892	24.8
Group Three (non-workers) -	6,625	56.7
Total Observations	11,671	100.0%

Results of the study are presented in three parts: (1) an overview of the data; (2) an analysis of regression results; and (3) an analysis of relationships among key variables identified in the regression analysis.

Overview of the Data

As a first step, we examined how closely the study sample resembles the total population of financial aid recipients in the state. In general, students in the sample population are younger, report slightly higher parental income, are proportionately distributed by sex, and are more likely to be dependent students than the statewide population of financial aid recipients.

As a second step, we examined the demographic and financial aid characteristics of the three groups to be analyzed: (1) those working under the State Work Study Program; (2) those working under either the College Work Study Program or institutional work study programs; and (3) those receiving financial aid but not working. Table One compares the three groups on basic demographic and financial aid characteristics. Students in State Work Study tend to be slightly older, are more likely to be independent of parental support, earn more per hour while working, have higher need, receive more in grant aid, and receive less in loan aid. Percentages in the table are based on data observations, rather than individual cases. The major impact of this

method is that some students in one group will show work study awards in programs outside that group because the data observations cover each academic term over a two year period. For example, a Group One student (State Work Study) may show a College Work Study award. This occurs when a student switches from one program to the other between the two academic years under review.

TABLE ONE

COMPARISON OF FINANCIAL AID RECIPIENTS IN THE STUDY, BY GROUP, 1983-84

	Group One (SWS)	Group Two (CWS/IWS)	Group Three (Non-workers)
Average Age	23.0	21.9	22.7
Sex			
Male	43.1%	43.2%	49.7%
Female	56.9%	56.8%	50.3%
Race			
White	78.5%	83.3%	75.8%
Other	21.5%	16.7%	24.2%
High School GPA[a]	3.28	3.27	3.28
Dependency Status			
Dependent	48.4%	62.1%	54.0%
Independent	51.6%	37.9%	46.0%
Marital Status			
Married	7.8%	6.4%	8.0%
Single	92.2%	93.6%	92.0%
Parental Income	$20,794	$21,456	$21,087
Year in School			
Freshman	16.3%	21.4%	16.5%
Sophomore	30.0%	33.3%	24.9%
Junior	25.4%	20.8%	24.1%
Senior	28.6%	24.5%	32.3%

[a]Covers students enrolled in four year colleges only; two year college students' records do not contain information on high school grade point average.

TABLE ONE Continued

COMPARISON OF FINANCIAL AID RECIPIENTS IN THE STUDY, BY GROUP, 1983-84

	Group One (SWS)	Group Two (CWS/IWS)	Group Three (Non-workers)
Average Hours Worked Per Week	11.7	11.3	-0-
Wages ($/hr)*	$4.77	$3.89	$ -0-
Need	$5,767	$5,497	$5,175
Grant*	$1,841	$1,805	$1,590
Loan*	$ 950	$ 813	$1,194
College Work Study Award*	$ 715	$1,079	$ 741
% of Observations with non-zero amount	17.7	73.2	12.7
Inst. Work Study Award*	$ 308	$ 660	$ 703
% of Observations with non-zero amount	7.0	24.1	7.3
State Work Study Award*	$1,426	$1,059	$ 901
% of Observations with non-zero amount	90.2	19.6	14.8

* Award is the average for those receiving any non-zero amount.

For State Work Study and College Work Study/Institutional Work Study, the distribution of observations by average hours worked per week and wages is shown in Table Two. Two-thirds of all work study students work between 10 and 20 hours per week. Students in College/Institutional Work Study are more apt to work less than 10 hours than students in State Work Study (34.3% versus 27.2%). State Work Study students have higher hourly wages than College/Institutional Work Study students. While most students in both

programs earn between $3.50 and $5.00 per hour, one-third of State Work Study students earn more than $5.00 per hour while 27.5 percent of College/Institutional Work Study students earn less than $3.50 per hour

TABLE TWO

AVERAGE HOURS WORKED PER WEEK AND HOURLY WAGES, BY PROGRAM

	Average Hours Worked Per Week			
	1-9	10-14	15-20	21-4 0
State Work Study	27.2%	50.0%	20.8%	1.9%
College/Institutional Work Study	34.3%	41.7%	21.8%	2.2%
Total	31.3%	45.2%	21.4%	2.1%

	Wages Per Hour		
	Less Than $3.50	$3.50 - 5.00	More Than $5.00
State Work Study	8.4%	58.0%	33.6%
College/Institutional Work Study	27.5%	64.1%	8.5%
Total	19.4%	61.5%	19.1%

Results of Regression Analyses

We used multiple regression analysis to incorporate as many variables as possible into the analysis model in order to observe the impact of work when controlling for all other variables. Three separate regression analyses were made using each of the three different academic variables as the dependent variables in the regression equations: (1) grade point average; (2) credit hours attempted; and (3) the ratio of credit hours earned to credit hours attempted.

The results show that:

(1) among the variables in the study, average hours worked per week, while statistically significant, produced only a very slight positive impact; that is, as average hours worked per week increases, grade point average increases marginally (up to 20 hours per week);

(2) there is no relationship between number of credit hours attempted and number of hours worked per week;

(3) there is a slight negative relationship between the ratio of credit hours earned to credit hours attempted and the number of hours worked per week.

Our conclusion is that work has almost no impact on the academic performance and very little impact on the academic progress of full-time undergraduate students in Washington's colleges and universities. Neither the number of hours worked nor the rate of pay has a strong impact on a student's grade point average, number of credit hours attempted, or the ratio of credits earned to credits attempted. The small impact that is present is positive for grade point average. For persistence, the regressions show that the working student, on average, will take slightly longer to complete college than the non-worker. However, our estimate is that, on average, the additional time required will be about one-third of an academic term.

Having reached this conclusion, we felt it was important to examine several of the independent variables in relationship to average hours worked per week. To do this, we prepared a series of crosstabulation tables that allowed us to observe trends for each of the academic variables (grade point average, credit hours attempted, and the ratio of credit hours earned to credit hours attempted) when related to number of hours worked by program and

the independent variables: year in school, high school grade point average, race, age, gender, marital status, dependency status, hourly wage.

Summary of Crosstabulation Analysis

The major findings from the crosstabulation analysis are:

1. upperclass students have higher grade point averages
2. State Work Study students generally have higher grade point averages than College Work Study students or non-workers
3. students who perform well in high school also perform well in college
4. grades improve as students work more hours per week (up to 20)
5. older students perform better than younger students
6. independent students perform better than dependent students
7. students with high financial need do better when working in the State Work Study program
8. students who work have a higher course completion rate than non-workers

In general, the crosstabulations for credit hours attempted and the ratio of credit hours earned to credit hours attemptd show a high degree of consistency across sex, age, need, and financial status (dependent versus independent).

Results of the Survey of Washington Campus Administrators

The survey of campus administrators asked for experiential judgments about the effect of working on academic performance and persistence. The results are summarized below.

Academic Performance

Survey responses show that, in the opinion of campus administrators, students who work part-time perform better academically than students who do not work. Respondents believe there is a correlation between the number of hours worked and academic performance, though opinion is somewhat split as to whether the correlation is positive or negative. There is slight indication, however, that students who work 15-20 hours per week tend to perform better academically than students who work under 10 hours. The location of the work, on-campus or off-campus, is not generally thought to affect academic performance; though, among those who believe it does, students who work on-campus perform better. Students who work in an academic or career area of interest perform at least as well as, if not better than, their counterparts in unrelated jobs. Single students without dependents who have average or high prior GPA's were identified as performing better academically if they work than students who lack these characteristics. Other factors identified by survey respondents as being positively related to academic performance include good time management, motivation, healthy self-esteem, and a good support system. Freshman students who are single with dependents and who have low prior GPA's were identified as performing better academically if they do not work. Other factors associated with poor academic performance include unrealistic goals, lack of commitment or motivation, self-doubt, and family problems. Age, sex, race and financial status (dependent or independent) were not believed to be related to academic performance.

Persistence

Survey results indicate that part-time work has a positive effect on a student's persistence. Working students have a higher degree completion rate than non-working students particularly if the job is in an academic or career area of interest. There is a trend in the last ten years for all students, working or non-working, to take longer to complete their undergraduate degrees, and part-time work is at least a somewhat significant factor in this trend. Opinion is split as to whether the location of the work, on-campus or off-campus, makes a difference with regard to retention. Among those who believe it does, however, students who work on-campus are more likely to remain enrolled than students who work off-campus. Sophomore students with average or high prior GPA's who are over 23 years of age and single without dependents or married were identified as performing better academically if they work than students who lack these characteristics. Other factors identified by the survey respondents as being positively related to retention include motivation, healthy self-esteem, a good support system, and positive campus involvement. Freshman students under 23 years of age with low prior GPA's who are single with dependents were identified as performing better academically if they do not work. Others factors associated with poor academic performance include a poor support system, inability to balance demands, and lack of commitment or motivation. Sex, race and financial status appear to be unrelated to retention.

Student Survey Results

Twenty-nine percent of the students in the survey responded to a mail questionnaire that sought additional information about outside work and student perceptions of the impact of working on academic performance and persistence. Less than 20 percent of those responding provided any information on outside work. This low response rate to this question dictated that we not include outside work in any of the regression analyses. We did, however, examine the responses to questions on student perceptions.

The respondent group is biased toward white females who are single, dependent, and come from families with higher incomes than students in the overall sample. This group has lower financial need, received less in grants and worked about the same number of hours per week. Responses of this group to the perception questions are shown below.

Table Three shows the response to the question, "Were you concerned about your ability to finance your college education (after you knew how much financial aid you would receive)?" In general, responses for each of the three groups were very similar with over half in each group having some concern and more than one-third being very concerned.

TABLE THREE

STUDENT CONCERN ABOUT PAYING FOR COLLEGE, BY GROUP

	Group One (SWS)	Group Two (CWS/IWS	Group Three (Non-Workers)
Not Concerned	6.8%	7.9%	10.8%
Some Concern	57.3%	51.5%	53.7%
Major Concern	35.9%	40.6%	35.4%

Table Four shows responses to the question, "Did working part-time have any effect on your academic performance while in college?" Only students who worked responded to this question. The responses are very similar by group, indicating no significant difference between students' experiences in State Work Study or College/Institutional Work Study on this dimension. Over forty percent of both groups felt that working did not affect their academic performance, while over ten percent felt that working had a positive influence on their academic performance. The remaining respondents, just under one-half, felt that working was detrimental to their academic performance.

TABLE FOUR

STUDENT PERCEPTIONS OF THE EFFECT OF WORKING ON ACADEMIC PERFORMANCE

	Group One (SWS)	Group Two (CWS/IWS)
Working part-time did not affect my academic performance	42.9%	41.9%
Working part-time improved my academic performance	11.0%	11.8%
Working part-time hurt my academic performance	46.1%	46.4%

The next question for working students was, "Did working part-time have any effect on your decision to continue in college?" Respondents were invited to check as many responses as appropriate, therefore, percentages do not add to 100. Responses are summarized in Table Five. Almost one-quarter of the respondents said that working had no impact on their decision to continue in

college. Roughly two-thirds acknowledged that working was helpful in paying college bills. By a margin of almost 2-to-1, College/Institutional Work Study students said that working made them feel more a part of the college. Students in State Work Study, on the other hand, were more apt to feel that their work experience, coupled with their degree, would enable them to get a better job. Only a few students reported that their part-time work led to a full-time job before they completed a degree.

TABLE FIVE

THE EFFECT OF WORKING ON STUDENTS' DECISIONS TO CONTINUE IN COLLEGE

	Group One (SWS)	Group Two (CWS/IWS)
Working had no effect on my decision to stay in college	23.3%	21.4%
Working enabled my to pay my college bills	62.3%	70.8%
Working made me feel more a part of the college	10.1%	18.8%
Working, combined with my degree, would enable me to get a better job	41.7%	32.2%
Working led to a permanent full-time job so I dropped out of school without completing my degree	1.8%	1.6%

The next question was, "Did working part-time force you to slow down your progress toward a degree?" Two-thirds of the respondents in both groups said no. Of the one-third who said yes, the average additional number of terms needed to achieve a degree was 2.2 for State Work Study students and 2.9 for College/Institutional Work Study students.

Summary and Conclusions

The purpose of the study was to examine five questions about the impact of working on academic performance and retention. Our conclusions are given below.

Question 1. Do students who are employed part-time perform as well academically as those who are not employed?

Overall, the answer is yes. The regression analysis shows that work (as measured in number of hours worked per week and wages paid) is not a factor in predicting a student's college grade point average. That is, there is no relationship between working and grade point average. Of all the variables we included in the regression equation, high school grade point average is the best predictor of college grade point average. The number of hours worked was a significant variable in predicting grade point average and its effect was positive. However, in practical terms the number of hours worked had very little impact on grade point average. The analysis of the crosstabulations shows that the longer a student is in school, the higher the grade point average, regardless of the work experience. For workers, grade point average generally increases with number of hours worked per week (up to 20), except for students over 29 years of age in the State Work Study program.

Administrators feel that students who work do better academically than students who do not work. Analysis of the crosstabulation data supports this belief for students in the State Work Study Program but does not support it for students in College/Institutional Work Study. Over one-half of the administrators also feel that working in a career-related field improved

academic performance. Our findings support this belief if the assumption that State Work Study is a proxy for career-related work is accurate.

Students are split in their perceptions of the effect of working on their academic performance. Forty-three percent reported that working part-time did not affect their academic performance; 11 percent reported that working improved their academic performance; and 46 percent reported that working hurt their academic performance. We did not find data in the study to support the feelings of this latter group.

Question 2. Is there a relationship between the number of hours worked and academic performance?

The multiple regression results show that there is a positive, yet weak, relationship between number of hours worked and academic performance. Analysis of the crosstabulations shows that freshman, sophomores and seniors who work 10-20 hours per week do slightly better academically than non-workers or workers who work either few hours (less than 10 hours per week) or many hours (more than 20 hours per week).

Two-thirds of the administrators feel that there is a relationship between working and academic performance. A majority of these believe that the more a student works (up to some reasonable limit), the higher the grade point average is likely to be, which is supported by our analysis.

Question 3. What impact does working part-time have on student persistence?

The multiple regression results indicate that there is no relationship between the number of credit hours attempted and working. There is, however, a slightly negative relationship between the ratio of credit hours earned to credit hours attempted and working. On average this relationship translates

into working students taking one third of one term longer than non-workers to complete a degree program.

Administrators report an overall trend for students of all types to take longer to complete a degree and that working students are more likely to remain in college through the completion of a degree. They cited several other factors as contributing to both academic performance and persistence - good time management, motivation, level of self-esteem, a good support system.

Again, student perceptions are split. Two-thirds feel working enabled them to meet their college expenses, thus allowing them to remain enrolled. One-fifth report that working had no effect on their decision to stay in college.

Question 4. Does location of work (on-campus versus off-campus) make a difference in academic performance or persistence?

We did not have a direct measure of this variable. The original assumption was that working in the State Work Study program was a proxy for working off-campus. The data reported for this variable in student records was incomplete. The crosstabulations show that students in State Work Study tend to have higher grade point averages than non-workers or students in College/Institutional Work Study. If the original assumption is correct, then working off-campus in the State Work Study program is correlated with increased grade point average.

Administrators do not believe that the location of work makes any difference in academic performance or persistence.

Question 5. Does working in a career-related field make a difference in academic performance or persistence?

The State Work Study regulations stipulate that, where possible, employment is to be related to the student's academic major or career area of interest. Since there is no corresponding rule governing the College/Institutional Work Study programs, we used this rule as a proxy for the career-related work variable. The crosstabulations show that students in the State Work Study program have a higher grade point average than their colleagues in College/Institutional Work Study at all levels of work and in all class years.

In the end, the analysis leads to the overall conclusions that there is no relationship between work and academic performance and only a slight negative relationship between work and progress toward a degree.